

## VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. This permit is being processed as a Minor, Municipal permit. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq. The municipal discharge results from treated sewage generated by a privately owned treatment works. This permit action consists of reissuance and updating the permit to reflect current VPDES policy and guidance.

1. Owner Name: Foreign Mission Boards of the Southern Baptist Convention  
Facility Name and Address: Missionary Learning Center  
16492 Missionary Learning Center Lane  
Rockville, VA 23146  
Location: 16492 Missionary Learning Center Lane, Hanover County, Virginia
2. SIC Code: 4952
3. Permit No. VA0067105 Existing Permit Expiration Date: July 13, 2008
4. Owner Contact:  
Name: Gary Beaty  
Title: Director of Facilities  
Telephone No: (804) 620-3803
5. Application Complete Date: March 27, 2008  
Permit Drafted By: Gina Kelly Date: March 3, 2008; revised March 27, 2008; April 30, 2008; May 6, 2008; June 16, 2008  
Reviewed By: Jaime Bauer Date: March 17, 2008  
Ray Jenkins Date: April 29, 2008  
Curt Linderman Date: May 5, 2008
6. Receiving Stream Name: South Anna River  
River Mile: 8-SAR025.62  
Basin: York River  
Subbasin: N/A  
Section: 3  
Class: III  
Special Standards: None  
7-Day, 10-Year Low Flow (7Q10): 5.3 MGD  
1-Day, 10-Year Low Flow (1Q10): 4.1 MGD  
30-Day, 5-Year Low Flow (30Q5): 12 MGD  
30-Day, 10-Year Low Flow (30Q10): 7.9 MGD  
Harmonic Mean Flow (HM): 52 MGD  
Tidal? No  
On 303(d) list? Yes
7. Operator License Requirements: Class IV
8. Reliability Class: II
9. Permit Characterization:  
(X) Existing Discharge (X) Municipal, SIC Code(s): 4952  
(X) Reissuance (X) Discharge to 303(d) Listed Segment  
(X) Water Quality Limited (X) Effluent Limited  
(X) PVOTW (X) Private

10. Wastewater Flow and Treatment: Table 1

Outfall Number	Wastewater Source	Treatment	Design Flow
001	Missionary Learning Center: nonprofit, religious training institute with housing facilities	Extended aeration activated sludge plant with a polishing pond, chlorination, dechlorination, and post aeration.	0.040 MGD

See **Attachment A** for a facility diagram.

11. Sludge Disposal: Sludge is transported by a contract hauler (Long and Associates Environmental Services) to the City of Richmond sewer system for disposal.

12. Discharge Location Description: This facility discharges to the South Anna River.  
 Name of USGS topo map: Hylas quadrangle – 127B (See **Attachment B**)

13. Material Storage: Chemicals are stored in proper containers and under roof cover.

14. Ambient Water Quality Information: Ambient water quality data from a downstream station at river mile 2-SAR021.22 was used in this analysis; the station is located at the Route 33 bridge, approximately 4.4 miles downstream of the discharge. This station was selected upon the advice of senior water planning staff. See **Attachment C** for the Ambient Stream Data, which includes TMDL information and Flow Frequency Determination.

15. Antidegradation Review and Comments:

The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect those uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The anti-degradation review begins with a Tier determination. The receiving waterbody, the South Anna River, is determined to be a Tier 2 waterbody due to the acceptable water quality upstream of the segment. The permit reissuance addresses an existing discharge. The waterbody is therefore, classified as Tier 2.

16. Site Inspection: December 21, 2007 by Michael Dare. See **Attachment D**.

17. Effluent Screening & Limitation Development:

See **Attachment E** for effluent data submitted in the Discharge Monitoring Reports (DMRs) and the application.

See **Attachment F** which presents the evaluations for several pollutants of concern. Included in Attachment F are the MIX.exe determinations, MSTRANT1 printout with WLAs, and STATS.exe analyses for ammonia and TRC.

Table 2: 0.040 MGD Facility

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITS			
		MO AVG	WE AVG	MIN	MAX
Flow	NA	NL		NA	NA

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITS					
		MO AVG		WE AVG		MIN	MAX
pH	1	NA		NA		6.0 S.U.	9.0 S.U.
cBOD <sub>5</sub>	2	25 mg/L	3800 g/d	38 mg/L	5700 g/d	NA	NA
Total Suspended Solids (TSS)	2	30 mg/L	4500 g/d	45 mg/L	6800 g/d	NA	NA
Ammonia as N	3	15 mg/L		15 mg/L		NA	NA
Dissolved Oxygen (DO)	1	NA		NA		5.0 mg/L	NA
Total Residual Chlorine (TRC)	3	0.011 mg/L		0.013 mg/L		NA	NA
E.coli (geometric mean)	1, 4	126 N/ 100 mL		NA		NA	NA

1. Water Quality Standards (9 VAC 25-260)
2. Secondary Treatment Standards (40 CFR133.102)
3. Water Quality Based Effluent Limitations
4. Pamunkey River Basin Bacteria TMDL

18. Antibacksliding: All limitations in the proposed permit are the same or more stringent than the limitations in the permit reissued in 2003.

19. Compliance Schedules

The VPDES Permit Regulation at 9 VAC 25-31-250 allows for schedules that will lead to compliance with the Clean Water Act, the State Water Control Law, and regulations promulgated under them.

As the facility's current disinfection process is expected to meet the new E.coli limitation, no compliance schedule was given for this parameter. Also, no compliance schedule was given for the revised TRC limitations, as the facility is already in compliance with the new limitations.

20. Total Residual Chlorine Limitations and Monitoring Requirements – Part I.B.

These limitations and monitoring requirements are required by the Water Quality Standards, 9 VAC 25-260-170 – Bacteria; other waters. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

21. Special Conditions – Part I.C:

- a. Special Condition C.1 – 95% Capacity Reopener  
 Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 2 for all POTW and PVOTW permits.
- b. Special Condition C.2 – O&M Manual Requirement  
 Rationale: Required by Code of Virginia §62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9 VAC 25-31-190 E.
- c. Special Condition C.3 – Licensed Operator Requirement  
 Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 C and the Code of Virginia § 54.1-2300 et seq., Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.), require licensure of operators.
- d. Special Condition C.4. – Reliability Class  
 Rationale: Required by Sewage Collection and Treatment Regulations, 9 VAC 25-790 for all municipal facilities.
- e. Special Condition C.5 – Sludge Use and Disposal  
 Rationale: VPDES Permit Regulation, 9 VAC 25-31-100 P, 220 B 2, and 420 through 720; and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.
- f. Special Condition C.6. – Sludge Reopener

Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-220 C 4 for all permits issued to treatment works treating domestic sewage.

- g. **Special Condition C.7 – Compliance Reporting**  
 Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limitation or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values. Significant digits guidance (Part d.) was added in accordance with GM06-2016.
- h. **Special Condition C.8 – Materials Handling/Storage**  
 Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial waste or other waste.
- i. **Special Condition C.9 – Section 303(d) List (TMDL) Reopener**  
 Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act. The TMDL reopener special condition is being included in all VPDES permits.
- j. **Special Condition C. 10 – CTO, CTC Requirement**  
 Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790.
- k. **Special Condition C. 11 – Indirect Dischargers**  
 Rationale Required by VPDES Permit Regulation, 9 VAC 25-31-200 B.1 and B.2 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.
- l. **Special Condition C. 12 – Water Quality Criteria Monitoring**  
 Rationale: State Water Control Law §62.1-44.21 authorizes the Board to request information needed to determine the discharge's impact on State waters. States are required to review data on discharges to identify actual or potential toxicity problems, or the attainment of water quality goals, according to 40 CFR Part 131, Water Quality Standards, subpart 131.11. To ensure that water quality criteria are maintained, the permittee is required to analyze the facility's effluent for the substances noted in Attachment A of this VPDES permit. This special condition is required for all municipal facilities with a design flow of 40,000 gpd or greater.

- 22. **Part II, Conditions Applicable to All VPDES Permits**  
 The VPDES Permit Regulation at 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

- 23. **Changes to Current Permit**

Table 3: Permit Processing Change Sheet

Parameter Changed	Effluent Limits Changed		Monitoring Requirement Changed		Reason for Change	Date
	From	To	From	To		
cBOD <sub>5</sub>	3.8 kg/d 5.7 kg/d	3800 g/d 5700g/d	-	-	The permit limitations were revised to be expressed in the desired number of significant digits (e.g. to the nearest whole number for loads and two significant digits for concentrations) – per GM06-2016.	6/08

Parameter Changed	Effluent Limits Changed		Monitoring Requirement Changed		Reason for Change	Date
	From	To	From	To		
TSS	4.5 kg/d 6.8 kg/d	4500 g/d 3800 g/d	-	-	The permit limitations were revised to be expressed in the desired number of significant digits (e.g. to the nearest whole number for loads and two significant digits for concentrations) – per GM06-2016.	6/08
Ammonia (monthly and weekly avgs)	21mg/L	15 mg/L	-	-	Re-evaluation indicates the need to lower ammonia limitations.	6/08
E.coli	-	126 N/ 100 mL (geometric mean)	-	2/Month	40 CFR 122.44(d)(1)(iii); new agency policy in response to EPA comments  Previously, minimum TRC concentrations in the chlorine contact tank served as a surrogate to indicate an adequate bacterial kill; this surrogacy is no longer acceptable. However, it is presumed that no additional equipment or plant modifications are necessary to demonstrate compliance with this limitation; therefore, no compliance schedule was given.	5/08

The cover page was revised according to current boiler plate language and format.

From	To	Special Condition Changed	Reason for Change	Date
Part I.A.1.a	Part I.A.1(a)	Design Flow	Revised references to associated special conditions and for clarity	6/08
	Part I.A.1(b)	Significant Figures	New, reflects current agency guidance	5/08
Part I.A.1.e	Part I.A.2	Discharge of floating solids/foam	No changes	6/08
	Part I.A.3	Sample location	New, reflects current agency guidance	5/08
Part I.A.1.c	Part I.A.4	TRC Requirements	Revised to reflect the conclusion of the compliance schedule	6/08
Part I.A.1.d	Part I.A.5	85% BOD <sub>5</sub> and TSS removal	No changes	5/08
Part I.B	Part I.B	Additional TRC Monitoring	Revised to reflect current agency guidance and the removal of the flow tier	5/08
Part I.C.1	Part I.C.1	95% Capacity Notification	No changes	5/08
Part I.C.2	Part I.C.2	O & M Manual	Revised to reflect current agency guidance	5/08
Part I.C.3	Part I.C.3	Licensed Operator	No changes	6/08
Part I.C.4	Part I.C.4	Reliability Class	No changes	5/08
Part I.C.8	Part I.C.5	Sludge Use and Disposal	Revised to reflect current agency guidance [removed VDH reference]	5/08
Part I.C.5	Part I.C.6	Sludge Reopener	Revised to reflect current agency guidance	5/08
Part I.C.7	Part I.C.7	Compliance Reporting	Revised to reflect current agency guidance	5/08
Part I.C.12	Part I.C.8	Materials Handling/Storage	No changes	5/08
	Part I.C.9	TMDL Reopener	New, reflects current agency guidance	5/08
	Part I.C.10	CTC, CTO Requirement	New, reflects current agency guidance	5/08
Part I.C.11	Part I.C.11	Indirect Dischargers	No changes	5/08
Part I.C.6	Part I.C.12	Water Quality Criteria Testing	Revised per current agency guidance	5/08

From	To	Special Condition Changed	Reason for Change	Date
Part I.A.1.b Part I.A.2.b	[deleted]	Compliance reporting	Reference no longer necessary	5/08
Part I.C.9	[deleted]	Closure Plan	This special condition is no longer required per current agency guidance as closure plans are adequately addressed in the SCAT regulations.	5/08
Part I.D	[deleted]	TRC Schedule of Compliance	The limitations specified within this special condition are now effective.	5/08
Part I.E	[deleted]	Bacteria Demonstration Study	This special condition is no longer required per current agency guidance.	5/08

Note: The draft permit package was revised June 16, 2008 for a plant capacity of 40,000 gpd based on information received from the permittee requesting such. The revisions to lower the design flow are contingent upon reconfiguring the plant to limit the total treatment capacity to 40,000 gpd. See the staff comment below.

24. Variances/Alternate Limits or Conditions: Waiver for testing requirements of the EPA Form 2A

The permittee requested a waiver from the Form 2A fecal coliform sampling with regards to the sample seasonality requirement (i.e. at least two samples must be taken at least four months apart). The waiver was granted by DEQ on March 28, 2008 (see **Attachment G**).

25. Public Notice Information required by 9 VAC 25-31-280 B:

Publishing Newspaper: *Richmond Times-Dispatch*

Comment period: Start Date: June 23, 2008 End Date: July 23, 2008

Publication dates: June 23, 2008 and June 30, 2008

All pertinent information is on file and may be inspected or copied by contacting Gina Kelly at:

Virginia Department of Environmental Quality (DEQ)

Piedmont Regional Office

4949-A Cox Road

Glen Allen, Virginia 23060-6296

Telephone Number 804/527-5048

Facsimile Number 804/527-5106

Email vekelly@deq.virginia.gov

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within the comment period will be considered. The DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing, and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

Following the comment period, the Board will make a determination regarding the proposed reissuance. That determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given.

26. Additional Comments:

a. Previous Board Action: None.

b. Staff Comments:

- The facility received a Warning Letter in June 2006; therefore, reduced monitoring is not appropriate at this time.

- As noted in the facility inspection, the pond functions as a polishing pond; consequently, no groundwater monitoring is required on this pond.
- This facility discharges directly to the South Anna River. The stream segment receiving the effluent was not accessed in 2006 for any of the designated uses; however a downstream bacteria impairment caused the Pamunkey River Basin to not meet the Recreation Designated Use. EPA approved the Bacteria TMDLs for the Pamunkey River Basin on August 2, 2006 for this segment. It contains an E.coli WLA of 4.35E10 CFU/year for this discharge. The TMDL is currently undergoing a modification to allow for an increased WLA of 6.97E10 based on a design flow of 40,000 gpd. Accordingly, this permit has final monthly geometric mean limits of 126 N/ 100 mL for E.coli that are in compliance with the TMDL. See **Attachment C**.
- During the last reissuance process, the permittee added a 40,000 gpd package plant in parallel with the existing 25,000 gpd plant. To allow the permittee the option of rehabilitating the 25,000 gpd plant and operating it in conjunction with the new plant, the 2003 permit reissuance included Part I.A pages for both design flows (i.e. 40,000 gpd and 65,000 gpd); the CTO was written likewise. New nutrient regulations and the accompanying permit capacities make it necessary for one design flow to be selected. The permittee elected to forgo the rehabilitation project and selected the design flow of 40,000 gpd; to demonstrate a total treatment capacity of only 40,000 gpd, the 25,000 gpd plant headers must be removed, allowing for additional storage but no additional treatment capacity. A revised CTO will be issued accordingly.
- Financial assurance does not apply to this facility as this facility does not have a design flow less than 40,000 gpd. Additionally, if the "owner" abandoned the facility, the center and the STP would close, and flow to the package plant would cease. The need for DEQ to ensure a temporary continuation of services would not exist and thus, neither would the need for financial assurance.
- This facility is not subject to the requirements of the Chesapeake Bay Nutrient General Permit as the facility's design flow is less than 500,000 gpd, the discharge is upstream of the fall line, and no expansion is underway at this time.
- This permit expired prior to reissuance due to the required TMDL revision that was not completed by TMDL staff and approved by EPA until June 2009.

Public Comment: One comment was received from Matthew Ellinghaus, Assistant Chief of Operations and Maintenance, Hanover Department of Public Utilities. Mr. Ellinghaus relayed Hanover DPU's objection to the permit due to the facility's practice of hauling sludge to the Hanover County Public Wastewater System without prior written approval from Hanover County. In response, the permittee revised the VPDES Sewage Sludge Application (i.e. SMP); also, the fact sheet was revised accordingly. Following these revisions, Hanover DPU removed their objection to the permit. See Attachment H.

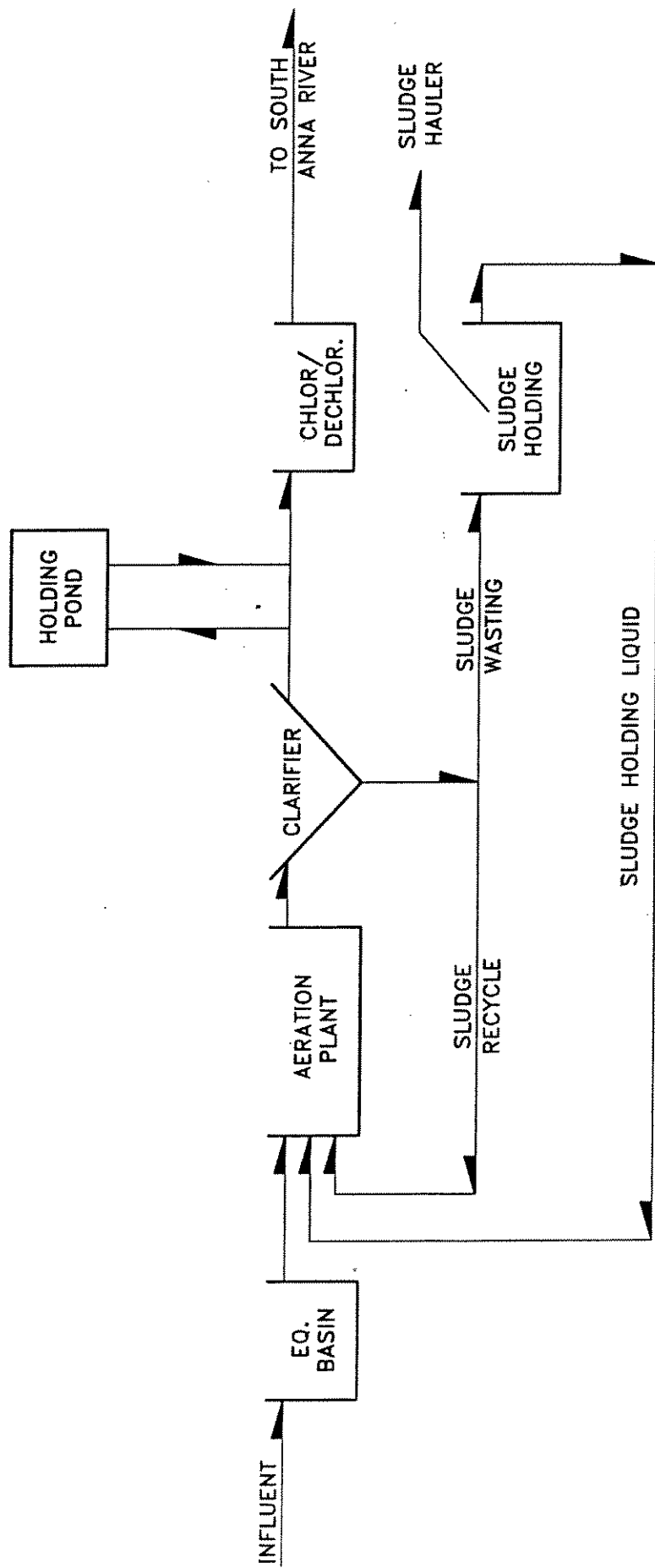
26. Summary of attachments to this Fact Sheet:

Attachment A	Facility Diagram
Attachment B	Location Map
Attachment C	Ambient Stream Data
Attachment D	Site Inspection Photos and Notes
Attachment E	Effluent Data
Attachment F	Effluent Limitation Analysis
Attachment G	Application Waiver Approval
Attachment H	Public Comments

## **Attachment A**

Facility Diagram





WASTEWATER TREATMENT PLANT  
FLOW DIAGRAM AND SLUDGE PROCESS



# COMMONWEALTH of VIRGINIA

ROBERT B. STROUBE, M.D., M.P.H.  
STATE HEALTH COMMISSIONER

*Department of Health*  
Division of Wastewater Engineering  
East Central Area

Raymond R. Barrows, Jr., P.E.  
1500 East Main Street, Room 109  
Richmond, Virginia 23219  
Phone (804) 786-1761  
Fax (804) 786-5567  
e-mail rbarrows@vdh.state.va.us

March 25, 2003

RECEIVED  
APR 10 2003  
PRO

SUBJECT: Hanover County  
Sewerage: Missionary Learning Center  
Wastewater Treatment Facility  
Revised Certificate to Operate

Norman Burnes, Director  
Missionary Learning Center  
16492 MLC Lane  
Rockville, Virginia 23146

Dear Mr. Burnes:

Your Revised Certificate to Operate the referenced facility is enclosed. The revision should allow you to operate your facility at 40,00 or 65,000 gallons per day.

Sincerely,

Raymond R. Barrows, Jr., PE  
East Central Area Engineer  
Division of Wastewater Engineering

✓ J. R. Bell, DEQ - PRO  
Debra J. Barnes, Environmental Engineer Senior  
W. Ted Tweel, M.D., MPH, Director, Hanover Health District

**CERTIFICATE TO OPERATE**  
**(Revised)**

**EFFECTIVE DATE:**

March 15, 2003

**FACILITY NAME:**

Missionary Learning Center  
Wastewater Treatment Facility

**OWNER:**

Foreign Mission Board of the Southern Baptist Convention

**NUMBER:**

4-085-15158

**DESCRIPTION OF FACILITY SYSTEM:**

The project consists of the addition of a 40,000 gallon per day extended aeration plant in parallel with the existing 25,000 gallon per day plant. The headworks and post treatment are designed to process 65,000 gallons per day.

**CERTIFICATION OF COMPLETION:**

By letter of August 11, 2001 the design engineer, Hulcher and Associates, certified the facility has been completed in substantial accordance with the approved plans.

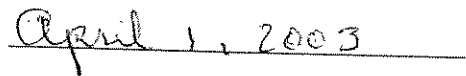
**AUTHORIZATION TO OPERATE:**

The owner is authorized to operate these facilities in accordance with the Sewage Collection and Treatment Regulations at the rate of 40,000 gallons per day or 65,000 gallons per day.

**ISSUED BY:**



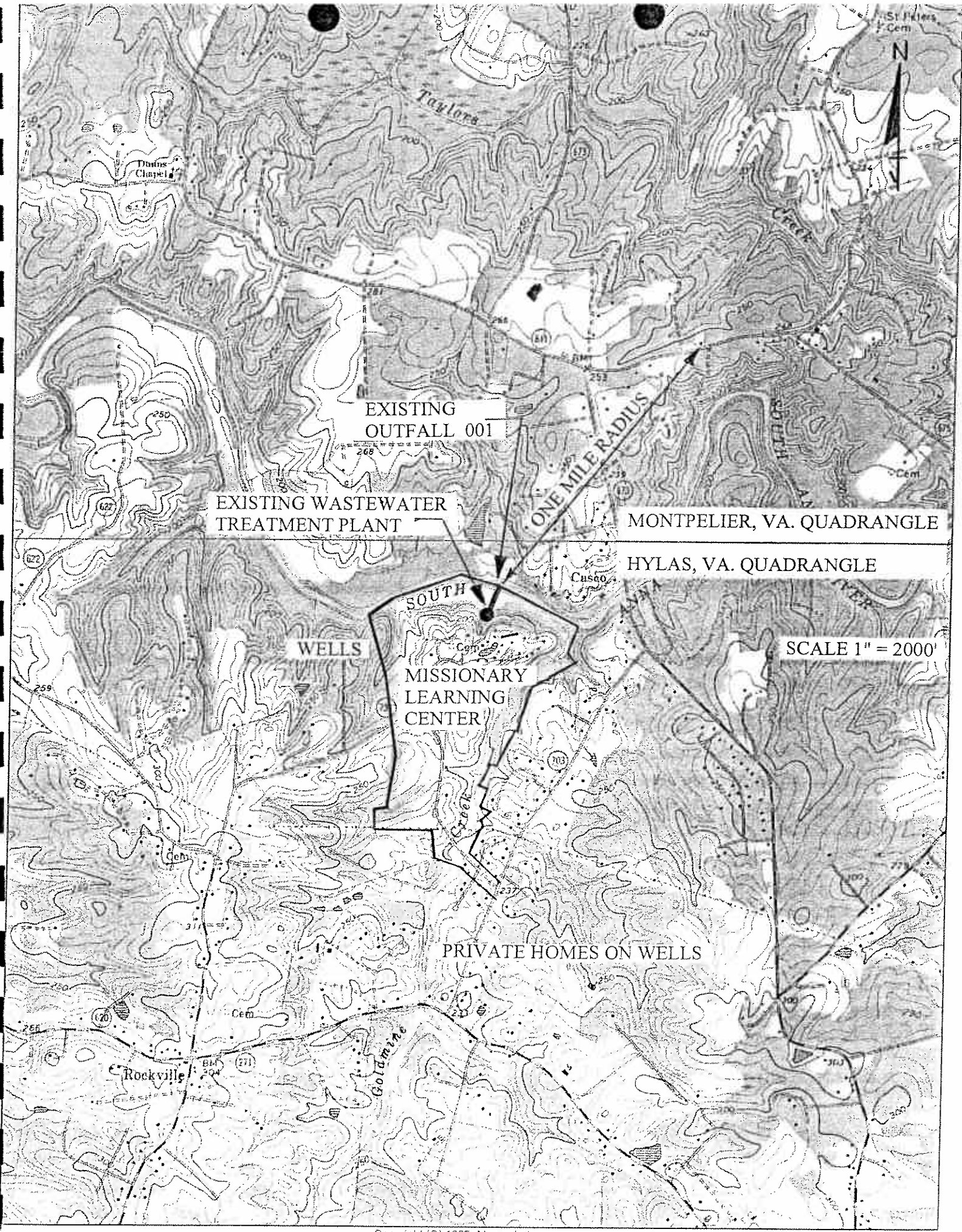
Raymond R. Barrows, Jr., P.E.  
East Central Area Engineer  
Division of Wastewater Engineering  
Virginia Department of Health



Date

## **Attachment B**

Location



EXISTING  
OUTFALL 001

EXISTING WASTEWATER  
TREATMENT PLANT

MONTPELIER, VA. QUADRANGLE

HYLAS, VA. QUADRANGLE

WELLS

SOUTH  
MISSIONARY  
LEARNING  
CENTER

SCALE 1" = 2000'

PRIVATE HOMES ON WELLS

### **Attachment C**


#### Ambient Stream Data

# MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY  
Piedmont Regional Office  
4949-A Cox Road Glen Allen, Virginia 23060

**SUBJECT:** Flow Frequency Determination / 303(d) Status  
Missionary Learning Center STP – VA0067105

**TO:** Gina Kelly

**FROM:** Jennifer V. Palmore, P.G. 

**DATE:** December 20, 2007

**COPIES:** File

The Missionary Learning Center's sewage treatment plant discharges to the South Anna River near Rockville, VA. The outfall is located at rivermile 8-SAR025.62. Flow frequencies have been requested at this site for use in developing effluent limitations for the VPDES permit.

The flow frequencies at the discharge point were calculated using drainage area proportion between the site and the continuous record gage on the South Anna River near Ashland, VA (#01672500). The USGS operated the gage from 1930 to 1997 and beginning again in 2003; it is located at the Route 54 bridge near Ashland. The flow frequencies for the gage and the discharge point are presented below.

**South Anna River near Ashland, VA (#01672500):**

Statistical Period = 1930-1997, 2003

Drainage area = 394 mi<sup>2</sup>

1Q30 = 4.1 cfs	High Flow 1Q10 = 54 cfs
1Q10 = 7.7 cfs	High Flow 7Q10 = 65 cfs
7Q10 = 10 cfs	High Flow 30Q10 = 99 cfs
30Q10 = 15 cfs	HM = 98 cfs
30Q5 = 23 cfs	

**South Anna River at discharge point**

Drainage area = 320.84 mi<sup>2</sup>

1Q30 = 3.3 cfs (2.2 MGD)	High Flow 1Q10 = 44 cfs (28 MGD)
1Q10 = 6.3 cfs (4.1 MGD)	High Flow 7Q10 = 53 cfs (34 MGD)
7Q10 = 8.1 cfs (5.3 MGD)	High Flow 30Q10 = 81 cfs (52 MGD)
30Q10 = 12 cfs (7.9 MGD)	HM = 80 cfs (52 MGD)
30Q5 = 19 cfs (12 MGD)	

This analysis does not address any withdrawals, discharges, or springs lying between the gage and the discharge point. The high flow months are December through April.

The data analysis for station 8-SAR021.22 is attached. The station is located at the Route 33 bridge, approximately 4.4 miles downstream of the discharge.

During the 2006 cycle, the segment of the South Anna River to which the Missionary Learning Center discharges was not assessed for any designated use and was considered a Category 3A water. Due to acceptable water quality upstream of the segment, the receiving stream should continue to be considered a Tier 2 water.

Although the receiving stream itself was not assessed for the Recreation Use, there is a downstream bacteria impairment on the Pamunkey River. The Missionary Learning Center's discharge was included in the Pamunkey River Basin Bacteria TMDL, which was approved by EPA on 8/2/2006. The Center received an annual E. coli wasteload allocation of  $4.35 \times 10^{10}$  E. coli cfu/year. The allocation was based on their current design flow of 0.025 MGD.

If you have any questions concerning this analysis, please let me know.



Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe
8-SAR021.22	7/17/1990	S	304.50	23.90	7.50	
8-SAR021.22	10/15/1990	S	.30	20.41	6.78	7.50
8-SAR021.22	10/15/1990	B	1.00			
8-SAR021.22	1/15/1991	S	.30			
8-SAR021.22	4/10/1991	B	.30			
8-SAR021.22	4/10/1991	S	.09	18.92	7.21	9.00
8-SAR021.22	7/1/1991	S	.30	26.65	6.95	6.43
8-SAR021.22	9/30/1991	S	.30	16.51	7.08	8.57
8-SAR021.22	9/30/1991	S	304.50			
8-SAR021.22	1/6/1992	S	.30	6.98	6.39	11.24
8-SAR021.22	4/13/1992	S	.30	15.67	6.30	8.89
8-SAR021.22	7/7/1992	S	.30	22.58	6.40	7.17
8-SAR021.22	10/1/1992	S	.30	14.38	6.81	9.02
8-SAR021.22	1/5/1993	S	.30	9.03	6.70	10.44
8-SAR021.22	4/5/1993	S	.30	11.64	6.58	9.91
8-SAR021.22	7/12/1993	S	.30	27.14	6.70	6.24
8-SAR021.22	10/7/1993	S	.30	14.58	7.17	8.81
8-SAR021.22	1/31/1994	S	.30	1.33	6.46	13.00
8-SAR021.22	4/11/1994	S	.30	14.85	6.57	9.14
8-SAR021.22	7/11/1994	S	.30	25.37	7.04	7.03
8-SAR021.22	10/11/1994	S	.30	13.38	7.02	9.25
8-SAR021.22	1/4/1995	S	.30	2.06	7.09	12.99
8-SAR021.22	4/25/1995	S	.30	13.22	7.02	10.24
8-SAR021.22	7/26/1995	S	.30	26.57	7.07	6.82
8-SAR021.22	10/12/1995	S	.30	16.65	7.00	8.24
8-SAR021.22	1/31/1996	S	.30	3.61	6.08	12.72
8-SAR021.22	4/18/1996	S	.30	12.44	6.63	10.07
8-SAR021.22	7/29/1996	S	.30	22.65	7.04	7.56
8-SAR021.22	10/29/1996	S	.30	14.39	6.73	7.93
8-SAR021.22	1/27/1997	S	.30	2.48	6.70	13.17
8-SAR021.22	4/9/1997	S	.30	13.78	6.83	9.56
8-SAR021.22	7/2/1997	S	.30			
8-SAR021.22	9/25/1997	S	.30	17.43	7.05	8.46
8-SAR021.22	11/12/1997	S	.30	9.69	6.76	10.23
8-SAR021.22	1/12/1998	S	.30	7.67	6.95	11.66
8-SAR021.22	3/12/1998	S	.30	6.74	6.26	12.16
8-SAR021.22	5/5/1998	S	.30	16.02	6.76	8.84
8-SAR021.22	7/6/1998	S	.30	23.72	7.00	7.43
8-SAR021.22	9/15/1998	S	.30	22.06	7.01	6.61
8-SAR021.22	11/3/1998	S	.30	10.78	6.89	9.47
8-SAR021.22	1/12/1999	S	.30	.39	6.34	13.62
8-SAR021.22	3/16/1999	S	.30	4.11	5.89	12.26
8-SAR021.22	5/19/1999	S	.30	17.91	6.40	8.22
8-SAR021.22	7/1/1999	S	.30	23.43	6.94	6.70
8-SAR021.22	9/1/1999	S	.30	20.10	6.58	7.25
8-SAR021.22	11/2/1999	S	.30	12.93	6.69	8.88
8-SAR021.22	1/5/2000	S	.30	8.67	6.71	10.41
8-SAR021.22	3/1/2000	S	.30	10.16	7.05	11.40
8-SAR021.22	5/3/2000	S	.30	16.44	7.06	9.12
8-SAR021.22	7/6/2000	S	.30	24.33	6.84	6.47
8-SAR021.22	9/12/2000	S	.30	21.33	7.08	7.43

Station ID	Collection Date	Depth Desc	Depth	Temp Celcius	Field Ph	Do Probe
8-SAR021.22	11/13/2000	S	.30	9.69	7.01	9.90
8-SAR021.22	1/16/2001	S	.30	2.20	6.62	14.21
8-SAR021.22	3/12/2001	S	.30	6.81	6.93	11.69
8-SAR021.22	7/8/2003	S	.30	24.46	6.92	7.47
8-SAR021.22	8/12/2003	S	.30	24.77	7.03	6.81
8-SAR021.22	9/9/2003	S	.30	21.06	7.38	8.68
8-SAR021.22	10/7/2003	S	.30	15.78	6.99	9.43
8-SAR021.22	11/4/2003	S	.30	15.29	6.81	9.08
8-SAR021.22	12/2/2003	S	.30	6.78	7.08	11.55
8-SAR021.22	1/6/2004	S	.30	8.95	6.74	11.12
8-SAR021.22	2/9/2004	S	.30	1.53	6.71	13.32
8-SAR021.22	3/9/2004	S	.30	9.97	7.09	11.39
8-SAR021.22	4/6/2004	S	.30	11.32	7.31	12.23
8-SAR021.22	5/4/2004	S	.30	16.62	6.65	8.90
8-SAR021.22	6/1/2004	S	.30	22.58	6.96	7.36
<b>90th Percentile</b>				<b>24.3</b>	<b>7.1</b>	
<b>10th Percentile</b>				<b>3.6</b>	<b>6.4</b>	

						00900	
						HARDNESS, TOTAL (MG/L AS CaCO3)	
						Value	Com Code
Sta Id	Collection Date Time	Depth Desc	Depth	Container	Comment		
8-SAR021.22	07/17/1990 10:15	S	304.5	R	STORET DATA CONVERSION	26.0	
8-SAR021.22	10/15/1990 10:15	S	0.3	R	STORET DATA CONVERSION		
8-SAR021.22	01/15/1991 11:05	S	0.3	R	STORET DATA CONVERSION	40.0	
8-SAR021.22	04/10/1991 11:25	S	0.09	R	STORET DATA CONVERSION	34.0	
8-SAR021.22	09/30/1991 10:00	S	0.3	R	STORET DATA CONVERSION	72.0	
8-SAR021.22	01/06/1992 09:15	S	0.3	R	STORET DATA CONVERSION	22.0	
8-SAR021.22	07/07/1992 08:47	S	0.3	R	STORET DATA CONVERSION	36.0	
8-SAR021.22	10/01/1992 09:11	S	0.3	R	STORET DATA CONVERSION	30.0	
8-SAR021.22	01/05/1993 09:25	S	0.3	R	STORET DATA CONVERSION	29.0	
8-SAR021.22	04/05/1993 08:45	S	0.3	R	STORET DATA CONVERSION	20.0	
8-SAR021.22	07/12/1993 09:15	S	0.3	R	STORET DATA CONVERSION	38.0	
8-SAR021.22	10/07/1993 09:53	S	0.3	R	STORET DATA CONVERSION	46.0	
8-SAR021.22	01/31/1994 09:30	S	0.3	R	STORET DATA CONVERSION	18.0	
8-SAR021.22	04/11/1994 10:33	S	0.3	R	STORET DATA CONVERSION	21.0	
8-SAR021.22	07/11/1994 09:22	S	0.3	R	STORET DATA CONVERSION	29.0	
8-SAR021.22	10/11/1994 10:00	S	0.3	R	STORET DATA CONVERSION	26.0	
8-SAR021.22	01/04/1995 11:00	S	0.3	R	STORET DATA CONVERSION	24.0	
8-SAR021.22	04/25/1995 11:30	S	0.3	R	STORET DATA CONVERSION	32.0	
8-SAR021.22	07/26/1995 10:15	S	0.3	R	STORET DATA CONVERSION	39.0	
8-SAR021.22	10/12/1995 09:24	S	0.3	R	STORET DATA CONVERSION	29.0	
8-SAR021.22	01/31/1996 10:25	S	0.3	R	STORET DATA CONVERSION	18.0	
8-SAR021.22	04/18/1996 11:00	S	0.3	R	STORET DATA CONVERSION	20.0	
8-SAR021.22	07/29/1996 08:55	S	0.3	R	STORET DATA CONVERSION	25.0	
8-SAR021.22	10/29/1996 11:11	S	0.3	R	STORET DATA CONVERSION	28.0	
8-SAR021.22	01/27/1997 10:55	S	0.3	R	STORET DATA CONVERSION	26.9	
8-SAR021.22	04/09/1997 09:44	S	0.3	R	STORET DATA CONVERSION	25.0	
8-SAR021.22	07/02/1997 10:30	S	0.3	R	STORET DATA CONVERSION	24.5	
8-SAR021.22	09/25/1997 14:22	S	0.3	R	STORET DATA CONVERSION	28.0	
8-SAR021.22	11/12/1997 14:14	S	0.3	R	STORET DATA CONVERSION	18.0	
8-SAR021.22	01/12/1998 15:50	S	0.3	R	STORET DATA CONVERSION	32.0	
8-SAR021.22	03/12/1998 10:30	S	0.3	R	STORET DATA CONVERSION	21.3	
8-SAR021.22	05/05/1998 10:24	S	0.3	R	STORET DATA CONVERSION	16.7	
8-SAR021.22	07/06/1998 10:25	S	0.3	R	STORET DATA CONVERSION	27.3	
8-SAR021.22	09/15/1998 08:10	S	0.3	R	STORET DATA CONVERSION	29.4	
8-SAR021.22	11/03/1998 10:30	S	0.3	R	STORET DATA CONVERSION	26.0	
8-SAR021.22	01/12/1999 09:09	S	0.3	R		34.0	
8-SAR021.22	03/16/1999 11:10	S	0.3	R		50.0	
8-SAR021.22	05/19/1999 10:47	S	0.3	R		30.0	
8-SAR021.22	07/01/1999 10:11	S	0.3	R		29.5	
8-SAR021.22	09/01/1999 10:25	S	0.3	R		13.3	
8-SAR021.22	01/05/2000 16:45	S	0.3	R		29.2	
8-SAR021.22	03/01/2000 15:00	S	0.3	R		20.0	
8-SAR021.22	05/03/2000 11:00	S	0.3	R		21.0	
8-SAR021.22	07/06/2000 09:20	S	0.3	R		25.4	
8-SAR021.22	09/12/2000 09:10	S	0.3	R		17.7	
8-SAR021.22	11/13/2000 09:25	S	0.3	R		27.0	
8-SAR021.22	01/16/2001 10:45	S	0.3	R		26.4	
8-SAR021.22	03/12/2001 10:30	S	0.3	R		25.1	
Mean						28.3	

## **Attachment D**

Site Inspection Photos and Notes

**Kelly, Virginia**

---

**From:** Longandassoc@aol.com  
**Sent:** Wednesday, June 18, 2008 9:22 AM  
**To:** Kelly, Virginia  
**Cc:** wword@imb.org  
**Subject:** Missionary Learning Center Pictures

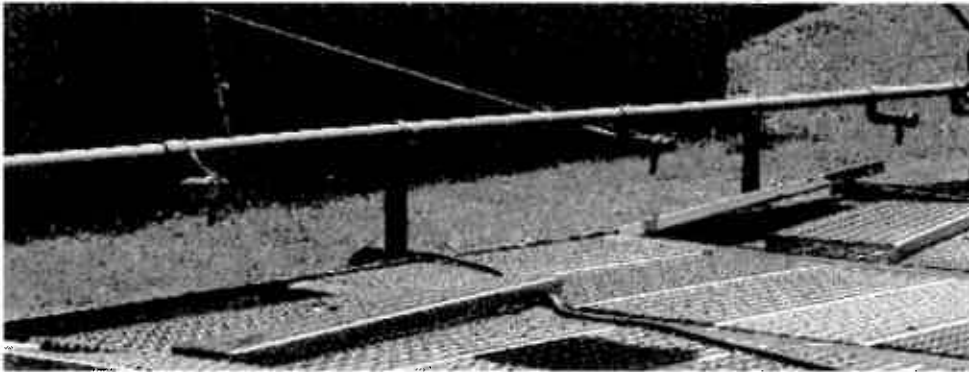
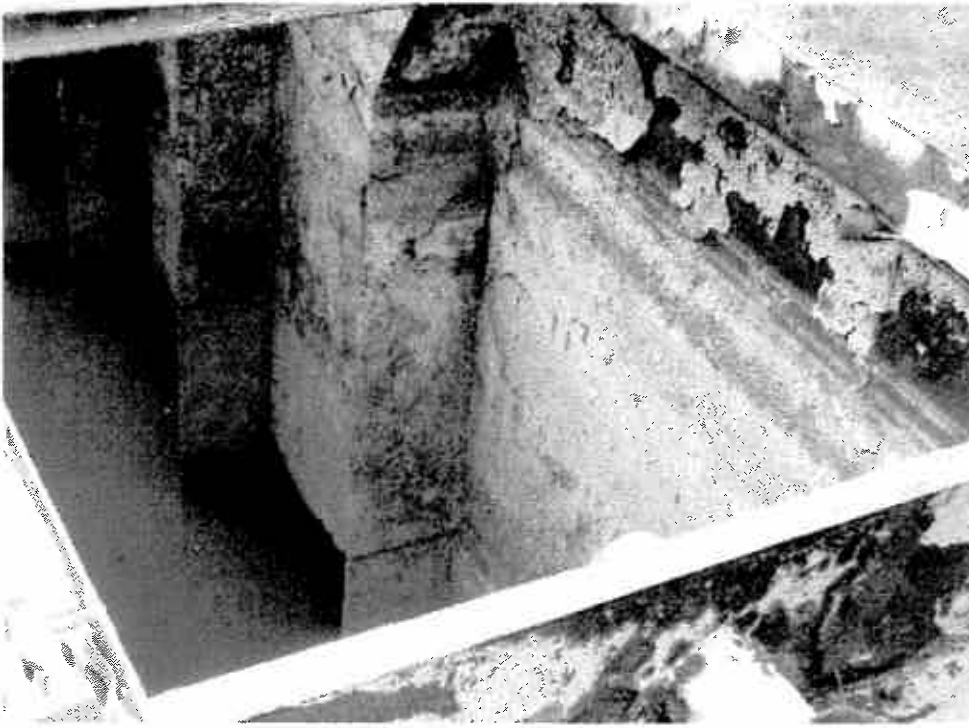
Ms. Kelly,

I have attached the pictures that you requested of the Missionary Learning Center old aeration basin and air headers. When we received the CTO for the new plant we closed off the influent and effluent valves to the old plant. They are currently closed and will remain closed. As you can see by the attached pictures, the maintenance crew at MLC have removed the air headers from the old aeration basin and placed them against the blower room. If you need any additional pictures or are in need of further assistance please contact us.

Thank you,



6/18/2008





Christy Spain  
Office Manager  
Long and Associates  
office 804-769-7668  
fax 804-769-7667  
cell 804-212-7963

---

Gas prices getting you down? Search AOL Autos for fuel-efficient [used cars](#).



VA 0067105

# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

### PIEDMONT REGIONAL OFFICE

4949-A Cox Road, Glen Allen, Virginia 23060

(804) 527-5020 Fax (804) 527-5106

[www.deq.virginia.gov](http://www.deq.virginia.gov)

L. Preston Bryant, Jr.  
Secretary of Natural Resources

David K. Paylor  
Director

Gerard Seeley, Jr.  
Regional Director

January 2, 2008

Mr. Gary Beaty  
Facility Director  
Missionary Learning Center  
16492 MLC Lane  
Rockville, VA 23146

Re: Inspection, Missionary Learning Center STP, Rockville, VA  
Permit No. VA0067105

Dear Mr. Beaty,

Enclosed is the report for the Inspection conducted at the Missionary Learning Center STP, Rockville, VA on December 21, 2007. Please review the reports carefully especially the "General and Compliance Recommendations" on:

Page 5 of the Technical Inspection Report and

Page 3 of the Laboratory Inspection Report.

Provide a written response addressing the recommendations, citing corrective actions, within 30 days of receipt of this letter.

If you have any questions regarding this report, please contact me at (804) 527-5055.

Sincerely,

A handwritten signature in cursive script that reads "Mike Dare".

Mike Dare  
Water Inspector

Enclosure

Cc: DEQ - Technical File  
Mr. Cody Long



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Wastewater Facility Inspection Report

Revised 08/2001

<b>Facility Name:</b>	<u>Missionary Learning Center (MLC) STP</u>	<b>Facility No.:</b>	<u>VA0067105</u>
<b>City/County:</b>	<u>Hanover County</u>	<b>Inspection Agency:</b>	<u>DEQ - PRO</u>
<b>Inspection Date:</b>	<u>December 21, 2007</u>	<b>Date Form Completed:</b>	
<b>Inspector:</b>	<u>Mike Dare MD 12-28-07</u>	<b>Time Spent:</b>	<u>12 hrs. w/ travel &amp; report</u>
<b>Reviewed By:</b>	<u>Heather (L. Hume) 01-02-08</u>	<b>Unannounced Insp.?</b>	<u>No</u>
		<b>FY-Scheduled Insp.?</b>	<u>Yes</u>

**Present at Inspection:** Nickie Sanderson, Contract Operator with Long & Associates

**TYPE OF FACILITY:**

<u>Domestic</u>	<u>Industrial</u>
<input type="checkbox"/> Federal	<input type="checkbox"/> Major
<input type="checkbox"/> Non-Federal	<input type="checkbox"/> Minor
<input type="checkbox"/> Major	<input type="checkbox"/> Primary
<input checked="" type="checkbox"/> Minor	<input type="checkbox"/> Secondary

**Population Served:** Accommodations for approximately 600 people

**Number of Connections:** 12 classrooms, three auditoriums, a gym and above accommodations

**TYPE OF INSPECTION:**

<input checked="" type="checkbox"/> Routine	Date of last inspection: <u>March 4, 2004</u>
<input type="checkbox"/> Compliance	Agency: <u>DEQ/PRO</u>
<input type="checkbox"/> Reinspection	

**INFLUENT and EFFLUENT MONITORING: Refer to the DMR files for monthly DMR reports.**

Last month average:	BOD: ___ mg/L	TSS: ___ mg/L	Flow: ___ MGD
<b>(Influent) Date:</b>			
Other: _____	mg/L		

Last month:	CBOD: ___ mg/L	TSS: ___ mg/L	Flow: <u>0</u> MGD
<b>(Effluent) Date:</b>			
Other:			

**CHANGES AND/OR CONSTRUCTION**

DATA VERIFIED IN PREFACE	<input type="checkbox"/> Updated	<input checked="" type="checkbox"/> No changes
Has there been any new construction?	<input type="checkbox"/> Yes*	<input checked="" type="checkbox"/> No
If yes, were plans and specifications approved?	<input type="checkbox"/> Yes	<input type="checkbox"/> No* <input checked="" type="checkbox"/> N/A
DEQ approval date:		

**(A) PLANT OPERATION AND MAINTENANCE**

1. Class and number of licensed operators: Three Class II, one Class IV and one OIT
2. Hours per day plant is staffed: 2 hours/day
3. Describe adequacy of staffing: ☒ Good ☐ Average ☐ Poor\*
4. Does the plant have an established program for training personnel? ☒ Yes ☐ No
5. Describe the adequacy of the training program: ☐ Good ☒ Average ☐ Poor\*
6. Are preventive maintenance tasks scheduled? ☒ Yes ☐ No\*
7. Describe the adequacy of maintenance: ☐ Good ☒ Average ☐ Poor\*
8. Does the plant experience any organic/hydraulic overloading? ☐ Yes\* ☒ No

If yes, identify cause and impact on plant: N/A

9. Any bypassing since last inspection? ☐ Yes\* ☒ No
10. Is the on-site electric generator operational? ☐ Yes ☐ No\* ☒ N/A
11. Is the STP alarm system operational? ☒ Yes ☐ No\* ☐ N/A
12. How often is the standby generator exercised? ☐ Weekly ☐ Monthly ☐ Other: N/A  
 Power Transfer Switch? ☐ Weekly ☐ Monthly ☐ Other: N/A  
 Alarm System? ☐ Weekly ☒ Monthly ☐ Other:
13. When were the cross connection control devices last tested on the potable water service? 1/24/07
14. Is sludge disposed in accordance with the approved sludge disposal plan? ☒ Yes ☐ No\* ☐ N/A
15. Is septage received by the facility? ☐ Yes ☒ No  
 Is septage loading controlled? ☐ Yes ☐ No\* ☒ N/A  
 Are records maintained? ☐ Yes ☐ No\* ☒ N/A
16. Overall appearance of facility: ☐ Good ☒ Average ☐ Poor\*

**Comments:**

- #6. Maintenance is scheduled and performed by Cody Long and Associates and the MLC maintenance department.
- #10. It was reported that the MLC campus has an emergency generator. Although backup power is not required for class II treatment works, if feasible, it is recommended for added reliability that the STP be tied into this generator.
- #11. The only operational alarm at the facility is a "blower - failure to start" alarm that sounds inside the blower building. (Alarm systems are not required for class II treatment works.)
- #14. Sludge is pumped and hauled to Richfood Rd. septage acceptance pump station in Hanover.

**(B) PLANT RECORDS**

1. Which of the following records does the plant maintain?
- |   |   |                              |   |
|---|---|------------------------------|---|
| Operational Logs for each unit process                        | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| Instrument maintenance and calibration                        | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| Mechanical equipment maintenance                              | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| Industrial waste contribution ( <b>Municipal Facilities</b> ) | <input type="checkbox"/> Yes            | <input type="checkbox"/> No* | <input checked="" type="checkbox"/> N/A |
2. What does the operational log contain?
- |                      |   |  |                              |
|----------------------|---|--|------------------------------|
| Visual Observations  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A |
| Flow Measurement     | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A |
| Laboratory Results   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            | <input type="checkbox"/> N/A |
| Process Adjustments  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No*           | <input type="checkbox"/> N/A |
| Control Calculations | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |
| Other:               |   |  |                              |
3. What do the mechanical equipment records contain:
- |                             |   |                              |                              |
|-----------------------------|---|------------------------------|------------------------------|
| As built plans and specs?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |
| Spare parts inventory?      | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |
| Manufacturers instructions? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |
| Equipment/parts suppliers?  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |
| Lubrication schedules?      | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |
| Other:                      |   |                              |                              |
| Comments:                   | <u>None</u>                             |                              |                              |
4. What do the industrial waste contribution records contain:
- (Applicable to municipal facilities only)*
- |                                |                              |                              |   |
|--------------------------------|------------------------------|------------------------------|---|
| Waste characteristics?         | <input type="checkbox"/> Yes | <input type="checkbox"/> No* | <input checked="" type="checkbox"/> N/A |
| Locations and discharge types? | <input type="checkbox"/> Yes | <input type="checkbox"/> No* | <input checked="" type="checkbox"/> N/A |
| Impact on plant?               | <input type="checkbox"/> Yes | <input type="checkbox"/> No* | <input checked="" type="checkbox"/> N/A |
| Other:                         | <u>N/A</u>                   |                              |   |
| Comments:                      | <u>None</u>                  |                              |   |
5. Are the following records maintained at the plant:
- |                                |   |                              |   |
|--------------------------------|---|------------------------------|---|
| Equipment maintenance records  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| Operational Log                | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| Industrial contributor records | <input type="checkbox"/> Yes            | <input type="checkbox"/> No* | <input checked="" type="checkbox"/> N/A |
| Instrumentation records        | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| Sampling and testing records   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
6. Are records maintained at a different location?
- Where are the records maintained?
- Records from the current month are kept at the WWTP, all others are kept at the nearby Maintenance Manager's Office.
7. Were the records reviewed during the inspection?
- |  |   |                             |
|--|---|-----------------------------|
|  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
|--|---|-----------------------------|
8. Are the records adequate and the O & M Manual current?
- O&M Manual date written: March 2002
- Date DEQ approved O&M: VDH approval 3/25/02
- |  |   |                              |                              |
|--|---|------------------------------|------------------------------|
|  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |
|--|---|------------------------------|------------------------------|
9. Are the records maintained for required 3-year period?
- |  |   |                              |
|--|---|------------------------------|
|  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* |
|--|---|------------------------------|

**Comments:** #1. A single operational log is kept for the entire plant. Log includes notes for various treatment units, observations and equipment adjustments.

#8. O&M manual reportedly located at the nearby Maintenance Manager's Office. A copy should be located at the STP.

**(C) SAMPLING**

- |  |   |                              |   |
|--|---|------------------------------|---|
| 1. Are sampling locations capable of providing representative samples? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| 2. Do sample types correspond to those required by the permit?         | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| 3. Do sampling frequencies correspond to those required by the permit? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| 4. Are composite samples collected in proportion to flow?              | <input type="checkbox"/> Yes            | <input type="checkbox"/> No* | <input checked="" type="checkbox"/> N/A |
| 5. Are composite samples refrigerated during collection?               | <input type="checkbox"/> Yes            | <input type="checkbox"/> No* | <input checked="" type="checkbox"/> N/A |
| 6. Does plant maintain required records of sampling?                   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |
| 7. Does plant run operational control tests?                           | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A            |

**Comments:****(D) TESTING**

1. Who performs the testing? ☒ Plant/ Lab Field Parameters  
☐ Central Lab  
☒ Commercial Lab - Name: EnviroCompliance Laboratories

*If plant performs any testing, complete 2-4.*

- |   |   |                              |                              |
|---|---|------------------------------|------------------------------|
| 2. What method is used for chlorine analysis?                   | <u>HACH Pocket Colorimeter</u>          |                              |                              |
| 3. Is sufficient equipment available to perform required tests? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |
| 4. Does testing equipment appear to be clean and/or operable?   | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | <input type="checkbox"/> N/A |

**Comments: Please see enclosed DEQ Laboratory Inspection Report.****(E) FOR INDUSTRIAL FACILITIES W/ TECHNOLOGY BASED LIMITS N/A**

1. Is the production process as described in the permit application? (If no, describe changes in comments)  
☐ Yes      ☐ No\*      ☒ N/A
2. Do products and production rates correspond to the permit application? (If no, list differences in comments section)  
☐ Yes      ☐ No\*      ☒ N/A
3. Has the State been notified of the changes and their impact on plant effluent?  
☐ Yes      ☐ No\*      ☒ N/A

**Comments: None**

## INSPECTION REPORT SUMMARY

**Follow up to Compliance Recommendations from the March 4, 2004 DEQ Inspection:**

There were no compliance recommendations.

**Follow up to General Recommendations/Observations:**

1. Install a generator hookup for the new plant as originally planned. Status unchanged.

**Compliance Recommendations/Request for Corrective Action:**

There are no compliance recommendations at this time.

**General Recommendations/Observations:**

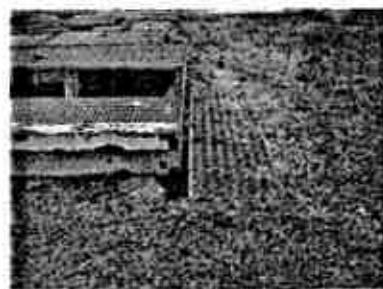
1. To reduce the fall potential to personnel, guards should be installed and holes filled at the abandoned aeration/clarifier system.



Guards should be installed at abandoned aeration/clarifier system to reduce fall potential.



Operator's left foot is in ground hog hole.



Holes in ground at the abandoned aeration/clarifier system are partially blocked with rocks and a grate.

2. Repair and return to service the comminutor at the surge tank.
3. Precariously perched pails of tablets at the chlorine contact tank should be moved to a stable location.
4. Ensure effluent flow meter is functioning properly. There was some flow at time of inspection but meter was reading 0.
5. It was reported that the MLC campus has an emergency generator. Although backup power is not required for class II treatment works, if feasible, it is recommended for added reliability that the STP be tied into this generator.
6. The O&M manual is reportedly located at the nearby Maintenance Manager's Office. A copy of the O&M manual should be located at the STP.
7. Lime should be applied to screenings when removed from bar rack to reduce potential for odor, the spread of disease and vector attraction.

## Items evaluated during this inspection include:

<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		Operational Units
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		O & M Manual
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		Maintenance Records
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Pathogen Reduction & Vector Attraction Reduction
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	Sludge Disposal Plan
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Groundwater Monitoring Plan
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	Storm Water Pollution Prevention Plan
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Permit Special Conditions
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	Permit Water Quality Chemical Monitoring
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	Laboratory Records (see Lab Report)

UNIT PROCESS: Screening/Comminution

1. Number of units: Manual: 1 Mechanical: 1  
 Number of units in operation: Manual: 1 Mechanical: 0
2. Bypass channel provided? ☐ Yes ☒ No  
 Bypass channel in use? ☐ Yes ☐ No ☒ N/A
3. Area adequately ventilated? ☒ Yes ☐ No\*
4. Alarm system for equipment failure or overloads? ☐ Yes ☐ No ☒ N/A  
 If present, is the alarm system operational? ☐ Yes ☐ No \* ☒ N/A
5. Proper flow-distribution between units? ☐ Yes ☐ No \* ☒ N/A
6. How often are units checked and cleaned? once/day
7. Cycle of operation: continuous
8. Volume of screenings removed: not ascertained
9. General condition: ☐ Good ☐ Fair ☒ Poor\*

Comments: This unit consists of a coarse bar rack under a comminutor. The comminutor had been removed for repair at time of inspection. Screenings are placed in buckets with lids and disposed of as trash by MLC maintenance staff. Lime should be applied to screenings when removed from bar rack to reduce potential for odor, the spread of disease and vector attraction.



Surge tank – bar rack is below opening in foreground.



Influent channel, missing comminutor, bar rack.



Removed comminutor.



Screenings in buckets, awaiting pickup for disposal.

**UNIT PROCESS: Surge Tank - Flow Equalization Tank**

1. Type of unit: ☒ In-line ☐ Side-line ☐ Spill Pond  
 Number of cells: 1  
 Number of cells in operation: 1
2. What unit process does it precede? Aeration Basin
3. Is volume adequate? ☒ Yes ☐ No
4. Type of mixing: ☐ None ☒ Diffused air ☐ Fixed Mechanical  
☐ Floating mechanical
5. Condition of mixing equipment: ☒ Good ☐ Average ☐ Poor\*
6. How drawn off?  
 a. Pumped from: ☐ Surface ☒ Sub-surface ☐ Adjustable ☐ N/A  
 b. Weir: ☐ Surface ☐ Sub-surface ☒ N/A
7. What is the condition of the containment structure? ☒ Good ☐ Fair ☐ Poor\*
8. Are the facilities to flush solids and grease from basin walls adequate? ☒ Yes ☐ No\* ☐ N/A
9. Are there facilities for withdrawing floating material and foam? ☒ Yes ☐ No
10. How are solids removed? ☐ Drain down ☐ Drag line  
☒ Other: Pump down and manually clean  
 Is it adequate? ☒ Yes ☐ No\*
11. Is the emergency overflow in good condition? ☒ Yes ☐ No\* ☐ N/A
12. Are the depth gauges in good condition? ☐ Yes ☐ No ☒ N/A
13. General condition: ☒ Good ☐ Fair ☐ Poor\*

Comments: The surge tank blower is controlled by a timer; the current schedule is 30 minutes on/30 minutes off. Two submersible pumps are available to move the wastewater from the surge tank to the flow equalization tank. A portion of the wastewater then flows to the aeration basin while the excess is returned to the surge tank.

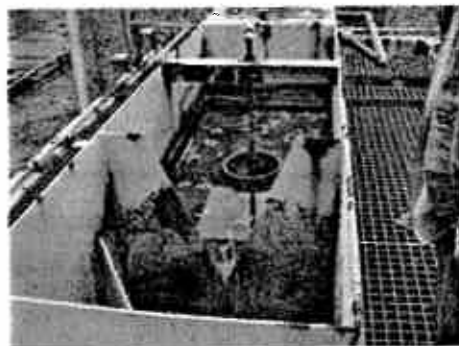


Photo at left shows surge tank with flow equalization tank at center. (Note abandoned aeration/clarifier system at left and newer replacement system at right.) Wastewater leaving the flow equalization tank is directed to only the newer system. Photo at right is a close-up of the flow equalization tank. The wastewater in the v-notch flows to the aeration tank; center drain returns excess flow to the surge tank.

UNIT PROCESS: Sewage Pumping

1. Name of station: Surge Tank
2. Location (if not at STP): N/A
3. Following equipment operable:
 

a. All pumps?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	
b. Ventilation?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	<input type="checkbox"/> N/A
c. Control system?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No*	<input type="checkbox"/> N/A
d. Sump pump?	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
e. Seal water system?	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
4. Reliability considerations:
 

a. Class	<input type="checkbox"/> I	<input checked="" type="checkbox"/> II	<input type="checkbox"/> III
b. Alarm system operable?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
c. Alarm conditions monitored:			
1. high water level:	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
2. high liquid level in dry well:	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
3. main electric power:	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
4. auxiliary electric power:	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
5. failure of pump motors to start:	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
6. test function:	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	
7. other:			
d. Backup for alarm system operational?	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
e. Alarm signal reported to (identify):			
f. Continuous operability provisions:			
1. Generator hook up?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	} a back up generator can power the entire plant
2. Two sources of electricity?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
3. Portable pump?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
4. 1 day storage?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
5. other:	<u>N/A</u>		
5. Does station have bypass? ☐ Yes\* ☒ No
 

a. Evidence of bypass use?	<input type="checkbox"/> Yes*	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
b. Can bypass be disinfected?	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A
c. Can bypass be measured?	<input type="checkbox"/> Yes	<input type="checkbox"/> No*	<input checked="" type="checkbox"/> N/A

6. How often is station checked? once/day

7. General condition: ☒ Good ☐ Fair ☐ Poor\*

**Comments:** Two submersible pumps are available to move the wastewater from the surge tank to the flow equalization tank.



**UNIT PROCESS: Activated Sludge Aeration**

1. Number of units: 1  
Number of units in operation: 1
2. Mode of operation: Conventional
3. Proper flow distribution between units? ☐ Yes ☐ No\* ☒ N/A
4. Foam control operational? ☐ Yes ☐ No\* ☒ N/A
5. Scum control operational? ☐ Yes ☐ No\* ☒ N/A
6. Evidence of the following problems:
  - a. Dead spots? ☐ Yes\* ☒ No
  - b. Excessive foam? ☐ Yes\* ☒ No
  - c. Poor aeration? ☐ Yes\* ☒ No
  - d. Excessive aeration? ☐ Yes\* ☒ No
  - e. Excessive scum? ☐ Yes\* ☒ No
  - f. Aeration equipment malfunction? ☐ Yes\* ☒ No
  - g. Other:
7. Mixed liquor characteristics (as available) December 21, 2007

pH: <u>7.5 SU</u>	MLSS:
DO: <u>7.69 mg/L (w/ air on)</u>	SDI: <u>N/A</u>
SVI:	Color: <u>Light brown</u>
Odor:	Settleability: <u>160 ml/l in 30 minutes</u>
	Other:
8. Return/waste sludge:
  - a. return rate: 30 minutes/hour with aeration cycle
  - b. waste rate: 100 – 300 gallons at a time
  - c. frequency of wasting: Varies but presently ~ 3 to 4 times / month
9. Aeration system control: ☒ Time Clock ☐ Manual ☐ Continuous  
☐ Other
10. Effluent control devices working properly (*oxidation ditches*)? ☐ Yes ☐ No ☒ N/A
11. General condition: ☒ Good ☐ Fair ☐ Poor \*

Comments: The aeration schedule is 30 minutes on/30 minutes off. Soda ash is added for pH adjustment. It was reported that solids in the aeration basin are currently being maintained at a low level (settleability 160 ml/L in 30 min.) due to low holiday flows. Sugar and other supplements are added during low flow periods to keep the micro-organisms active.

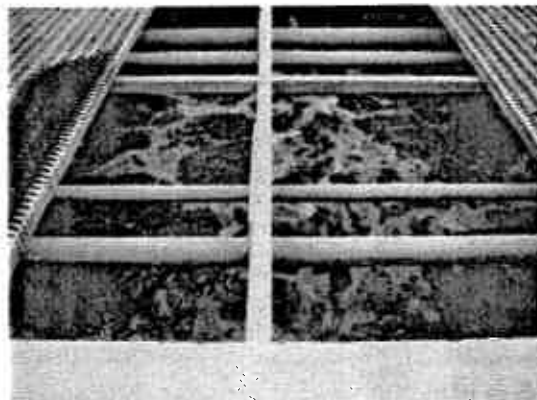
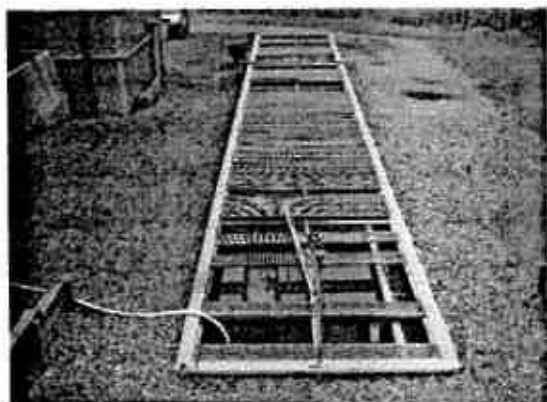


Photo at left is of aeration/clarifier/sludge holding system. (The aeration portion is located centrally in the system.) Photo at right is of aeration portion of the system.

**UNIT PROCESS: Sedimentation**

☐ Primary      ☒ Secondary      ☐ Tertiary

1. Number of units: 1  
In operation: 1
2. Proper flow-distribution between units?      ☐ Yes      ☐ No\*      ☒ N/A
3. Signs of short-circuiting and/or overloads?      ☐ Yes\*      ☒ No
4. Effluent weirs level?      ☒ Yes      ☐ No\*      ☐ N/A  
Clean?      ☒ Yes      ☐ No\*
5. Scum collection system working properly?      ☐ Yes      ☒ No\*      ☐ N/A
6. Sludge-collection system working properly?      ☒ Yes      ☐ No\*      ☐ N/A
7. Influent, effluent baffle systems working properly?      ☒ Yes      ☐ No\*      ☐ N/A
8. Chemical addition?      ☐ Yes      ☒ No  
Chemicals:
9. Effluent characteristics:      **There was no flow at time of inspection.**
10. General condition:      ☒ Good      ☐ Fair      ☐ Poor\*

**Comments:**

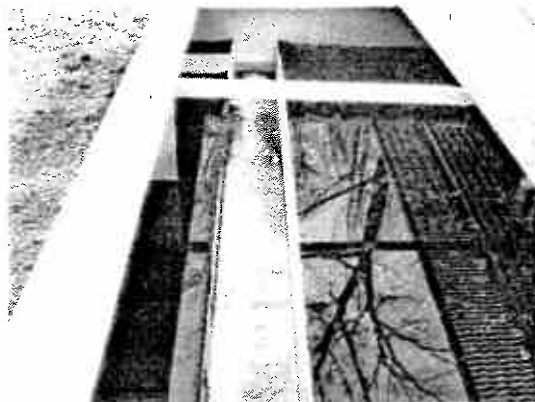
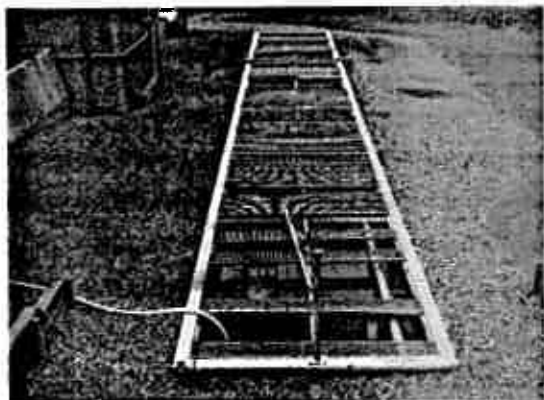


Photo at left is of aeration/clarifier/sludge holding system. (The clarifier is located at the far end of the system.) Photo at right is of clarifier with effluent trough at center. There was no flow at time of inspection.

UNIT PROCESS: Aerobic Digestion

1. Number of units: 1  
 Number of units in operation: 1
2. Type of sludge treated: ☐ Primary ☒ WAS ☐ Other:
3. Frequency of sludge application to digesters: ~ 3 - 4 times/month
4. Supernatant return rate: Not monitored, a portable submersible pump is used
5. pH adjustment provided? ☐ Yes ☒ No  
 Utilized: ☐ Yes ☐ No ☒ N/A
6. Tank contents well-mixed and relatively free of odors? ☒ Yes ☐ No\*
7. If diffused aeration is used, do diffusers require frequent cleaning? ☐ Yes ☒ No ☐ N/A
8. Location of supernatant return: ☐ Head ☐ Primary ☒ Other Surge Tank
9. Process control testing:  
 a. percent volatile solids: ☐ Yes \_\_\_\_\_ % ☒ No  
 b. pH: ☐ Yes \_\_\_\_\_ SU ☒ No  
 c. alkalinity: ☐ Yes \_\_\_\_\_ mg/L ☒ No  
 d. dissolved oxygen: ☐ Yes \_\_\_\_\_ mg/L ☒ No
10. Foaming problem present? ☐ Yes \* ☒ No
11. Signs of short-circuiting or overloads?: ☐ Yes \* ☒ No
12. General condition: ☒ Good ☐ Fair ☐ Poor\*

**Comments:** The sludge is pumped as needed and hauled to the Richfood Road Septage Receiving Station.

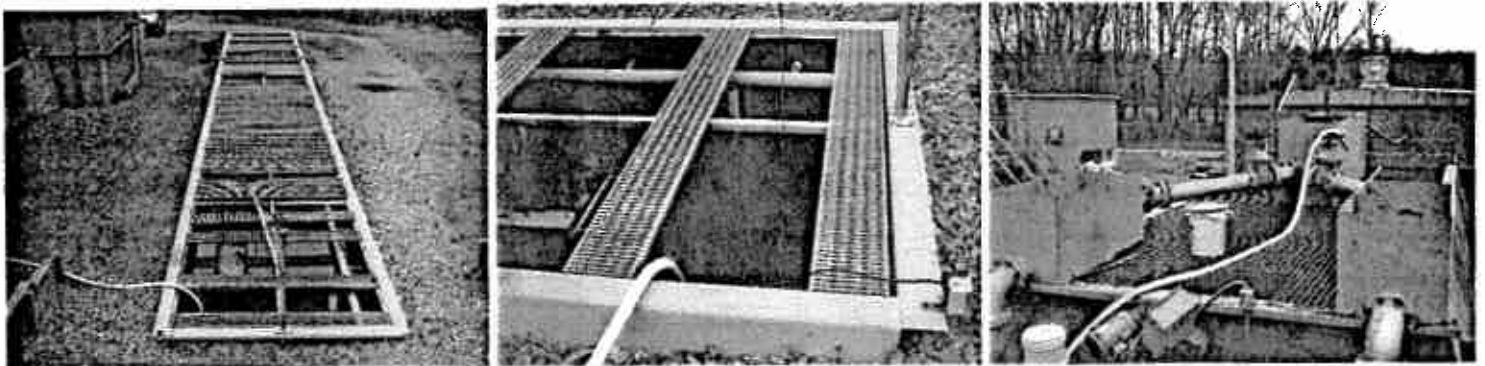


Photo at left is of aeration/clarifier/sludge holding system. (Sludge holding portion is in foreground.) Center photo is of sludge holding portion. White hose is supernatant line which discharges to the surge tank (right photo).

UNIT PROCESS: Ponds/Lagoons

1. Type: ☐ Aerated ☐ Unaerated ☒ Polishing
2. No. of cells: 1
- Number in Operation: 1
3. Color: ☐ Green ☐ D. Brown ☐ L. Brown ☐ Grey  
☒ Other: clear with some duckweed
4. Odor: ☐ Septic \* ☐ Earthy ☒ None  
☐ Other:
5. System operated in: ☐ Series ☐ Parallel ☒ N/A
6. If aerated, are lagoon contents mixed adequately? ☐ Yes ☐ No \* ☒ N/A
7. If aerated, is aeration system operating properly? ☒ Yes ☐ No \* ☐ N/A
8. Evidence of following problems:
- a. Vegetation in lagoon or dikes? ☐ Yes \* ☒ No
- b. Rodents burrowing on dikes? ☐ Yes \* ☒ No
- c. Erosion? ☐ Yes \* ☒ No
- d. Sludge bars? ☐ Yes \* ☒ No
- e. Excessive foam? ☐ Yes \* ☒ No
- f. Floating material? ☐ Yes \* ☒ No
9. Fencing intact? ☒ Yes ☐ No \*
10. Grass maintained properly: ☒ Yes ☐ No
11. Level control valves working properly? ☒ Yes ☐ No \* ☐ N/A
12. Effluent discharge elevation: ☐ Top ☒ Middle ☐ Bottom
13. Available freeboard: approx. 3 ft.
14. Appearance of effluent: ☒ Good ☐ Fair ☐ Poor \*
15. Are monitoring wells present? ☐ Yes ☒ No
- Are wells adequately protected from runoff? ☐ Yes ☐ No \* ☒ N/A
- Are caps on and secured? ☐ Yes ☐ No \* ☒ N/A
16. General condition: ☒ Good ☐ Fair ☐ Poor \*

Comments: Effluent from the clarifier discharges to this pond. The aerator runs continuously.

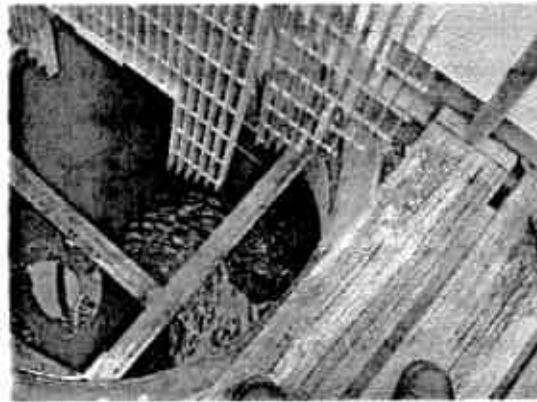
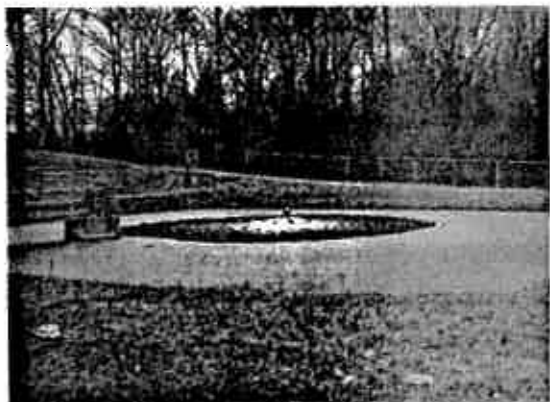


Photo on left is of polishing pond. Outlet structure is at end of bridge. Photo on right is of outlet structure interior. Flow enters the structure from the pond through stand pipe and exits to the chlorine contact tank through a pipe located at the bottom of the structure.

UNIT PROCESS: Chlorination

1. Number of chlorinators: 4  
Number in operation: 2
2. Number of evaporators: 0  
Number in operation: 0
3. Number of chlorine contact tanks: 2  
Number in operation: 1
4. Proper flow-distribution between units? ☐ Yes ☐ No \* ☒ N/A
5. How is chlorine introduced into the wastewater?  
☐ Perforated diffusers  
☐ Injector with single entry point  
☒ Other Two 4-tube tablet feeders associated with each contact tank
6. Chlorine residual in basin effluent: 1.7 mg/L (12/21/07)
7. Applied chlorine dosage: A total of 4 tubes were stocked for the one contact tank in use (2 tubes per feeder)
8. Contact basins adequately baffled? ☒ Yes ☐ No \* ☐ N/A
9. Adequate ventilation in:  
a. Chemical storage area? ☐ Yes ☐ No \* ☒ N/A  
b. Equipment room? ☐ Yes ☐ No \* ☒ N/A
10. Proper safety precautions used? ☒ Yes ☐ No \*
11. General condition: ☒ Good ☐ Fair ☐ Poor\*

**Comments:**

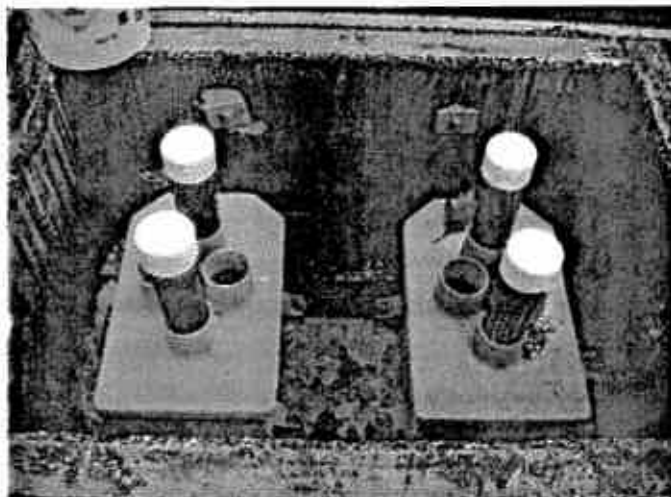
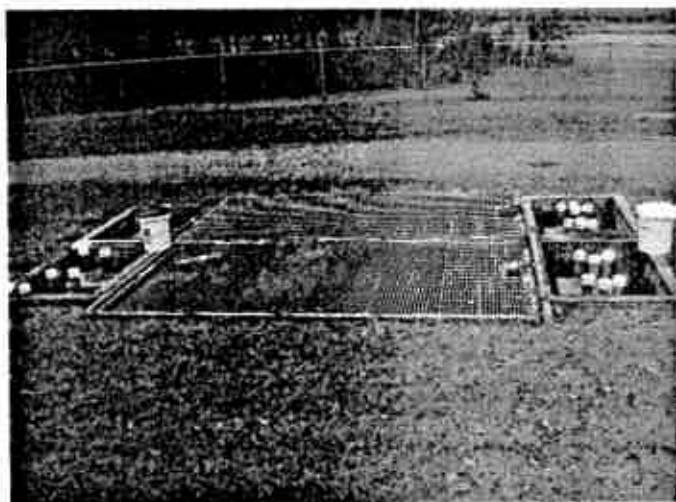


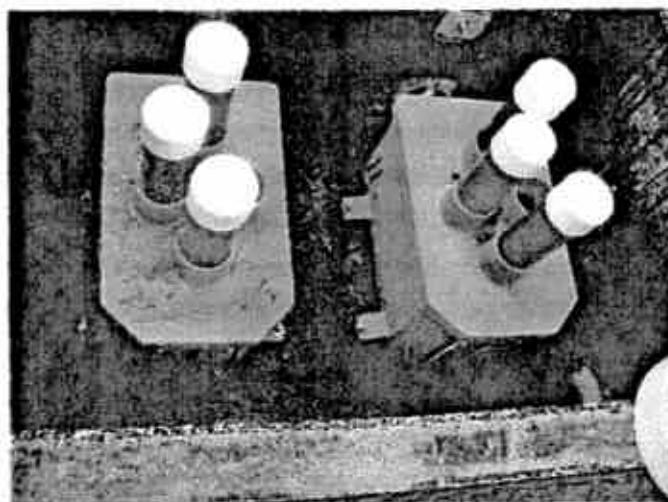
Photo on left shows two parallel chlorine contact chambers. Only the chamber on right was in use at time of inspection. Photo on right shows the tablet feeders in use. Precariously perched pails of tablets should be moved to a stable location. It was reported that any debris that collects in the contact tank is periodically removed.

**UNIT PROCESS: Dechlorination**

1. Chemical used: ☐ Sulfur Dioxide ☒ Bisulfite ☐ Other
2. Number of sulfonators: 0  
Number in operation: 0
3. Number of evaporators: 0  
Number in operation: 0
4. Number of chemical feeders: 4  
Number in operation: 2
5. Number of contact tanks: 0  
Number in operation: 0
6. Proper flow-distribution between units? ☐ Yes ☐ No \* ☒ N/A
7. How is chemical introduced?  
☐ Perforated diffusers  
☐ Injector with single entry point  
☒ Other Two 4-tube tablet feeders for each contact tank
8. Control system operational?  
a. Residual analyzers? ☒ Yes ☐ No \*  
b. System adjusted: ☐ Automatic ☒ Manual ☐ Other:
9. Applied dechlorinating dose: Three tubes in each of two tablet feeders following 1 contact tank
10. Chlorine residual in basin effluent: 0.00 mg/L (12/21/07)
11. Contact basins adequately baffled? ☐ Yes ☐ No \* ☒ N/A
12. Adequate ventilation in:  
a. Chemical storage area? ☒ Yes ☐ No \*  
b. Equipment room? ☒ Yes ☐ No \*
13. Proper safety precautions used? ☒ Yes ☐ No \*
14. General condition: ☒ Good ☐ Fair ☐ Poor\*

**Comments:**

The Dechlorination system is to the right of the contact tank.



Dechlorination tablet feeders in use.

**UNIT PROCESS: Post Aeration**

1. Number of units: 2  
Number of units in operation: 0
2. Proper flow-distribution between units? ☐ Yes ☐ No\* ☒ N/A
3. Evidence of following problems:
- a. Dead spots? ☐ Yes\* ☒ No
- b. Excessive foam? ☐ Yes\* ☒ No
- c. Poor aeration? ☐ Yes\* ☒ No
- d. Mechanical equipment failure? ☐ Yes\* ☐ No ☒ N/A
4. How is the aerator controlled? ☒ Time clock ☐ Manual ☐ Continuous  
☐ Other \_\_\_\_\_ ☐ N/A
5. What is the current operating schedule? **Not currently in use**
6. Step weirs level? ☐ Yes ☐ No\* ☒ N/A
7. Effluent D.O. level: **10.25 mg/L (12/21/07)**
8. General condition: ☒ Good ☐ Fair ☐ Poor\*

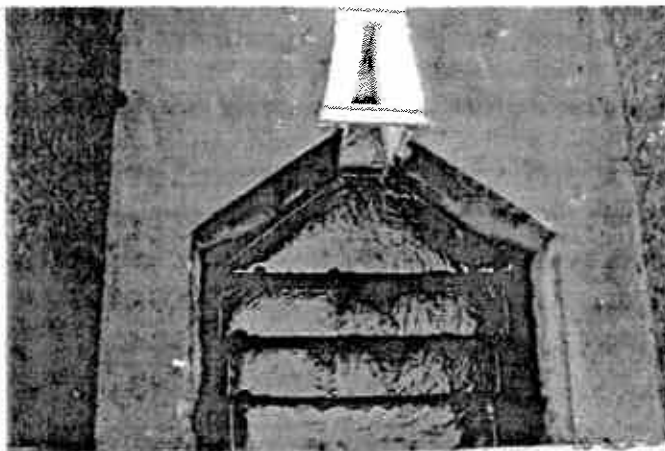
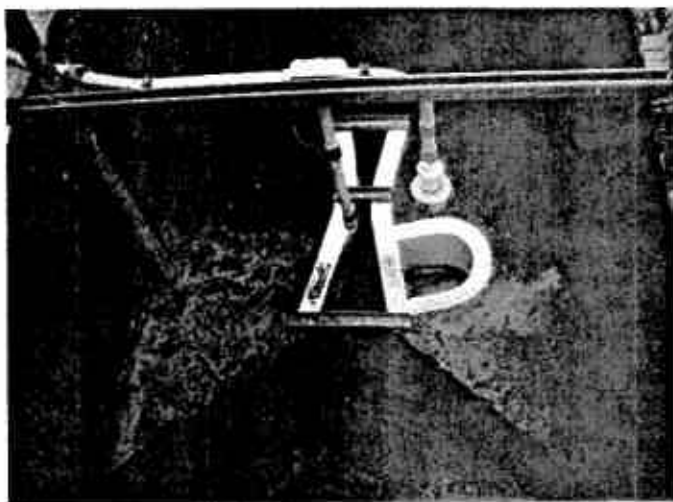
**Comments:** Air diffusers are installed in the last pass of the chlorine contact tank.

**UNIT PROCESS: Flow Measurement**

☐ Influent      ☐ Intermediate      ☒ Effluent

1. Type measuring device: Parshall Flume w/Ultrasonic Sensor, stilling well and totalizer.
2. Present reading: Instantaneous: 0 gpm at time of inspection
3. Bypass channel? ☐ Yes      ☒ No  
     Metered? ☐ Yes      ☐ No\*      ☒ N/A
4. Return flows discharged upstream from meter? ☐ Yes      ☒ No  
     If Yes, identify: N/A
5. Device operating properly? ☐ Yes      ☒ No\*
6. Date of last calibration: 11/4/07
7. Evidence of following problems:
  - a. Obstructions? ☐ Yes\*      ☒ No
  - b. Grease? ☐ Yes\*      ☒ No
8. General condition: ☒ Good      ☐ Fair      ☐ Poor\*

**Comments:** Cascade aerator follows flow measurement.



Left photo shows Parshall flume, ultrasonic sensor and stilling well. Right photo shows cascade aerator. Some flow at time of inspection but meter was reading 0. Please ensure meter is functioning properly.



**UNIT PROCESS: Effluent/Plant Outfall**

1. Type outfall: ☒ Shore based ☐ Submerged
2. Type if shore based: ☐ Wingwall ☐ Headwall ☐ Rip Rap ☒ N/A
3. Flapper valve? ☐ Yes ☒ No
4. Erosion of bank? ☐ Yes\* ☒ No ☐ N/A
5. Effluent plume visible? ☐ Yes \* ☒ No

**Comments:**

6. Condition of outfall and supporting structures: ☒ Good ☐ Fair ☐ Poor \*
7. Final effluent, evidence of following problems:
  - a. Oil sheen? ☐ Yes\* ☒ No
  - b. Grease? ☐ Yes\* ☒ No
  - c. Sludge bar? ☐ Yes\* ☒ No
  - d. Turbid effluent? ☐ Yes\* ☒ No
  - e. Visible foam? ☒ Yes\* ☐ No
  - f. Unusual odor? ☐ Yes\* ☒ No

**Comments: #7e. Small amount of foam visible at outfall.**



Well maintained outfall right of way between plant and South Anna River is at left. Point of discharge is at center. South Anna River is at right.

cc:

- G. BRATY*
- ☒ Owner: C/O J. Henley
  - ☒ Operator: Cody Long
  - ☐ Local Health Department:
  - ☐ VDH Engineering Field Office
  - ☐ VDH/Central Office - DWE
  - ☐ DEQ - OWCP, attn: Steve Stell
  - ☒ DEQ - Regional Office File
  - ☐ EPA - Region III

## 10/01

COPIES TO: (X) DEQ - PRO; ( ) OWCP; (X) OWNER; ( ) EPA-Region III; (X) Other: Cody Long, Contract Operator

**LABORATORY RECORDS SECTION**

LABORATORY RECORDS INCLUDE THE FOLLOWING:

<input checked="" type="checkbox"/>	SAMPLING DATE	<input checked="" type="checkbox"/>	ANALYSIS DATE	<input type="checkbox"/>	CONT MONITORING CHART
<input checked="" type="checkbox"/>	SAMPLING TIME	<input checked="" type="checkbox"/>	ANALYSIS TIME	<input checked="" type="checkbox"/>	INSTRUMENT CALIBRATION
<input checked="" type="checkbox"/>	SAMPLE LOCATION	<input checked="" type="checkbox"/>	TEST METHOD	<input checked="" type="checkbox"/>	INSTRUMENT MAINTENANCE
				<input checked="" type="checkbox"/>	CERTIFICATE OF ANALYSIS

WRITTEN INSTRUCTIONS INCLUDE THE FOLLOWING:

<input checked="" type="checkbox"/>	SAMPLING SCHEDULES	<input checked="" type="checkbox"/>	CALCULATIONS	<input type="checkbox"/>	Need for Ph & DO	ANALYSIS PROCEDURES
-------------------------------------	--------------------	-------------------------------------	--------------	--------------------------	------------------	---------------------

	YES	NO	N/A
DO ALL ANALYSTS INITIAL THEIR WORK?	X		
DO BENCH SHEETS INCLUDE ALL INFORMATION NECESSARY TO DETERMINE RESULTS?		X	
IS THE DMR COMPLETE AND CORRECT? MONTH(S) REVIEWED: <b>November 2007</b>		X	
ARE ALL MONITORING VALUES REQUIRED BY THE PERMIT REPORTED?	X		

**GENERAL SAMPLING AND ANALYSIS SECTION**

	YES	NO	N/A
ARE SAMPLE LOCATION(S) ACCORDING TO PERMIT REQUIREMENTS?	X		
ARE SAMPLE COLLECTION PROCEDURES APPROPRIATE?	X		
IS SAMPLE EQUIPMENT CONDITION ADEQUATE?	X		
IS FLOW MEASUREMENT ACCORDING TO PERMIT REQUIREMENTS?	X		
ARE COMPOSITE SAMPLES REPRESENTATIVE OF FLOW?			X
ARE SAMPLE HOLDING TIMES AND PRESERVATION ADEQUATE?		X	
IF ANALYSIS IS PERFORMED AT ANOTHER LOCATION, ARE SHIPPING PROCEDURES ADEQUATE? LIST PARAMETERS AND NAME & ADDRESS OF LAB: <b>CBOD, TSS &amp; Ammonia - EnviroCompliance, Ashland, VA</b>	X		

**LABORATORY EQUIPMENT SECTION**

	YES	NO	N/A
IS LABORATORY EQUIPMENT IN PROPER OPERATING RANGE?	X		
ARE ANNUAL THERMOMETER CALIBRATION(S) ADEQUATE?	X		
IS THE LABORATORY GRADE WATER SUPPLY ADEQUATE?			X
ARE ANALYTICAL BALANCE(S) ADEQUATE?			X

# LABORATORY INSPECTION REPORT SUMMARY

<b>FACILITY NAME:</b> Missionary Learning Center STP	<b>FACILITY NO:</b> VA0067105	<b>INSPECTION DATE:</b> December 21, 2007
<b>LABORATORY EVALUATION:</b>	<input checked="" type="checkbox"/> <b>Deficiencies</b> <input type="checkbox"/> <b>No Deficiencies</b>	

## LABORATORY RECORDS

1. Instruction manuals were not available at the time of inspection for the pH test kit and DO meter. Instruction manuals for all lab instruments must be on hand in the lab. Please take the necessary steps to make these manuals available.
2. On the monthly data sheet, the "TRC" column is under the "final effluent" heading. It should be indicated that "TRC" is sampled at the chlorine contact tank outlet. (See attached.)
3. Minimum DO on November 2007 DMR should read 7.17 mg/L instead of 7.21 mg/L. (See attached monthly data sheet.) No action required.

## GENERAL SAMPLING AND ANALYSIS

1. Need to indicate preservation method (to reduce pH to <2) for ammonia on Chain of Custody.

## LABORATORY EQUIPMENT

No deficiencies were noted.

## INDIVIDUAL PARAMETERS

### pH, Dissolved Oxygen and Total Residual Chlorine Analysis Procedures:

No deficiencies were noted

### COMMENTS

Please refer to the attached reference sheet regarding 40 CFR Part 136 changes. Use only as a reference as it does not include all required QA/QC. You may also refer to [www.deq.virginia.gov/vpdes](http://www.deq.virginia.gov/vpdes) for additional information and FAQs. If you have questions, please contact me at 804-527-5055.



Plant laboratory is kept clean and orderly.

ANALYST:	Nickie Sanderson	VPDES NO	VA0067105
----------	------------------	----------	-----------

Parameter: Hydrogen Ion (pH)  
Method: HACH 17-N pH Test Kit  
04/01

METHOD OF ANALYSIS:

X	MANUFACTURERS INSTRUCTIONS
---	----------------------------

- 1) Does the facility treat domestic wastewater and have a design flow  $\leq$  to 0.040 MGD? [Permit]
- 2) Was sample dechlorinated using sodium thiosulfate? [Notes A]
- 3) Are the vials clean and in good condition? [Permit]
- 4) Is the color disc in good condition? [Permit]
- 5) Are both vials used? [4]
- 6) Are vials rinsed with sample prior to testing? [1]
- 7) Is the proper volume of sample used? [1]
- 8) Is the proper volume of indicator added? [2]
- 9) Is the comparator held in front of a uniform light source or background? [5]

Y	N
X	
X	
X	
X	
X	
X	
X	
X	

COMMENTS: None

PROBLEMS: None

ANALYST:	Nickie Sanderson	VPDES NO.	VA0067105
----------	------------------	-----------	-----------

Parameter: Dissolved Oxygen

Method: Electrode

Facility Elevation – 200 ft.

03/01

METHOD OF ANALYSIS:

X	18th EDITION OF STANDARD METHODS-4500-O G
	ASTM-D-888-92(B)
	EPA METHODS FOR CHEMICAL ANALYSIS-360.1
	USGS-METHODS IN WATER AND FLUVIAL SEDIMENTS-I-1576-78

- 1) If samples are collected, is collection carried out with a minimum of turbulence and air bubble formation? [SM4500-O B.3; 360.1-3.1]
- 2) If samples are collected, is the sample bottle allowed to overflow several times its volume? [SM4500-O B.3; 360.1-3.1]
- 3) Are meter and electrode operable and providing consistent readings? [Permit]
- 4) Is membrane in good condition without trapped air bubbles? [SM 4500-O G.3.b]
- 5) Is correct filling solution used in electrode? [Mfr.]
- 6) Is meter calibrated before use or at least daily? [Mfr.]
- 7) Is calibration procedure performed according to manufacturer's instructions? [Mfr.]
- 8) Are water droplets shaken off the membrane prior to calibration? [Mfr.]
- 9) Is sample stirred during analysis? [Mfr.]
- 10) Is the sample analysis procedure performed according to manufacturer's instructions? [Mfr.]
- 11) Is meter stabilized before reading D.O.? [Mfr.]
- 12) Is electrode stored according to manufacturer's instructions? [Mfr.]

Y	N
<i>in situ</i>	
<i>in situ</i>	
X	
X	
X	
X	
X	
X	
X	
X	
X	

COMMENTS: None

PROBLEMS: None

ANALYST:	Nickie Sanderson	VPDES NO	VA0067105
----------	------------------	----------	-----------

Parameter: Total Residual Chlorine  
Method: DPD Colorimetric (HACH Pocket Colorimeter)  
04/02

# METHOD OF ANALYSIS:

☒ MANUFACTURER'S INSTRUCTIONS (HACH METHOD 8167)

	Y	N
1) Are the DPD PermaChem Powder Pillows stored in a cool, dry place? [Mfr.]	X	
2) Are the pillows within the manufacturer's expiration date? [Permit]	X	
3) Has buffering capability of DPD pillows been checked annually? (Pillows should adjust sample pH to between 6 and 7) [Permit]	X	
4) When pH adjustment is required, is H <sub>2</sub> SO <sub>4</sub> or NaOH used? [11.3.1]	X	
5) Are cells clean and in good condition? [Permit]	X	
6) Is the low range (0.01-mg/L resolution) used for samples containing residuals from 0-2.00 mg/L? [Mfr.]	X	
7) Is the 10-mL cell (2.5-cm diameter) used for samples from 0-2.00 mg/L? [Mfr.]	X	
8) Is the meter zeroed correctly by using sample as blank for the cell used? [Mfr.]	X	
9) Is the instrument cap placed correctly on the meter body when the meter is zeroed and when the sample is analyzed? [Mfr.]	X	
10) Is the DPD Total Chlorine PermaChem Powder Pillow mixed into the sample? [11.1]	X	
11) Is the analysis made at least three minutes but not more than six minutes after PermaChem Powder Pillow addition? [11.2]	X	
12) If read-out is flashing [2.20], is sample diluted correctly, then reanalyzed? [1.2 & 2.0]	X	
13) When instrument was new to lab, was instrument calibration verified by analyzing a Quality Control Sample (i.e. Spec-check™, alternate source standard) prior to any data being reported? [Permit]	Not ascer-tained	
14) Is a Quality Control Sample (i.e. Spec- check™, alternate source standard) analyzed quarterly? [9.2.3]	X	

PROBLEMS: None

DEQ Meter check with Chlorine Standards:  
HACH Kit Lot Number A6058, Exp. 2/08

Stand. No.	True Value, mg/L	Range of Standard, mg/L	Min Acceptable, mg/L	Max Acceptable, mg/L	Instrument Reading mg/L
I	Blank	N/A	0	0	0
II	0.21	0.09	0.12	0.30	0.19
III	0.90	0.10	0.80	1.00	0.85
IV	1.63	0.14	1.49	1.77	1.52

Results: Acceptable

**DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION**  
**SAMPLE ANALYSIS HOLDING TIME/CONTAINER/PRESERVATION CHECK SHEET**

Revised 7/05 [40 CFR, Part 136.3, Table II]

FACILITY NAME:		Missionary Learning Center			VPDES NO	VA0067105	DATE:	December 21, 2007						
HOLDING TIMES		SAMPLE CONTAINER					PRESERVATION							
PARAMETER	APPROVED	MET?		LOGGED?		ADEQ. VOLUME		APPROP. TYPE		APPROVED	MET?		CHECKED?	
		Y	N	Y	N	Y	N	Y	N		Y	N	Y	N
BOD5 & CBOD5	48 HOURS	X		X		X				ANALYZE 2 HRS or 4° C	X		X	
TSS	7 DAYS	X		X		X				4° C	X		X	
FECAL COLIFORM / <i>E. coli</i> / <i>Enterococci</i>	6 HRS & 2 HRS TO PROCESS									10° C (1 HOUR)+0.008% Na <sub>2</sub> S <sub>2</sub> O <sub>5</sub>				
pH	15 MIN.	X		X		X				N/A				
CHLORINE	15 MIN.	X		X		X				N/A				
DISSOLVED O <sub>2</sub>	15 MIN./IN SITU	X		X		X				N/A				
TEMPERATURE	IMMERSION STAB.									N/A				
OIL & GREASE	28 DAYS									4° C+H <sub>2</sub> SO <sub>4</sub> /HCL pH<2				
AMMONIA	28 DAYS	X		X		X				4° C+H <sub>2</sub> SO <sub>4</sub> pH<2 DECHLOR	X		X	
TKN	28 DAYS									4° C+H <sub>2</sub> SO <sub>4</sub> pH<2 DECHLOR				
NITRATE	48 HOURS									4° C				
NITRATE+NITRITE	28 DAYS									4° C+H <sub>2</sub> SO <sub>4</sub> pH<2				
NITRITE	48 HOURS									4° C				
PHOSPHATE, ORTHO	48 HOURS									FILTER, 4° C				
TOTAL PHOS.	28 DAYS									4° C+H <sub>2</sub> SO <sub>4</sub> pH<2				
METALS (except Hg)	6 MONTHS									HNO <sub>3</sub> pH<2				
MERCURY	28 DAYS									HNO <sub>3</sub> pH<2				
PROBLEMS: None										PROBLEMS:				
										Need to indicate preservation method (to reduce pH to <2) for ammonia on Chain of Custody.				



**DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION  
EQUIPMENT TEMPERATURE LOG/THERMOMETER VERIFICATION CHECK SHEET**

10-06

FACILITY NAME:		Missionary Learning Center				VPDES NO:	VA0067105	DATE:	December 21, 2007				
EQUIPMENT	RANGE	IN RANGE		INSPECT READING °C	CHECK & LOG DAILY		CORRECT INCREMENT	DATE CHECKED	MARKED		CORR FACTOR	ANNUAL THERMOMETER VERIFICATION	
		Y	N		Y	N			Y	N		Is the NIST / NIST Traceable Reference Thermometer within the manufacturer's expiration date or recertified yearly? <u>EnviroCompliance Lab</u>	INSPECT TEMP °C
SAMPLE REFRIGER.	1-4°C												Y
AUTO SAMPLER	1-4°C												
BOD INCUBATOR	20° C ± 1° C												
SOLIDS DRYING OVEN	103-105° C												
WATER BATH	44.5° ± .2° C												
INCUBATOR	35° ± .5° C												
AUTOClave	121° C IN 30 MIN												
HOT AIR STERILIZING	170° ± 10° C												
O & G WATER BATH	70° ± 2° C												
REAGENT REFRIGER.	1-4° C												
pH METER	± 1° C												
DO METER	± 1° C			Not checked				12/17/07	Y		-0.4	20.6/20.2	
THERMOMETER-OUTFALL	± 1° C												
Hg WATER BATH	95° C												

PROBLEMS: None

Due to the recent changes to 40 CFR Part 136, some EPA Methods are no longer approved. For example, EPA Methods for pH, TRC, and DO are now unacceptable for use. Standard Methods for these field parameters should be used. The following information highlights some of the QC requirements needed for these Standard Methods that were not required by EPA Methods.

**pH requirements:** [SM 4500-H<sup>+</sup> B]

- 3 buffers are required for calibrations. Meters that are only capable of performing a 2 point calibration may read the 3<sup>rd</sup> buffer as a sample to verify the meter can accurately read a pH within the range of 4-10. Continue to recheck buffer 7 to verify calibration. While performing the calibrations, it is also required that the temperature of the buffers be recorded.
- Each analyst that will be performing pH analysis must perform an Initial Demonstration of Capability (IDC). Calibrate the meter as normal. Select a buffer that you do not use for routine calibration. It may be a 4, 7 or 10 from a different lot # or a different manufacturer or a buffer of a value different from those used to calibrate – (5.0, 6.0, 7.4, etc.) Pour at least 4 individual aliquots of the buffer to be analyzed. Read each aliquot of buffer as a sample and record the results, including temperature. Results should be  $\pm 0.1$  S.U. of the known value. Document the results for each analyst. This is just a one-time analysis per analyst.
- Duplicates are now required at least daily if referencing the 20<sup>th</sup> or 21<sup>st</sup> edition, or at least one in every 20 samples referencing 18<sup>th</sup> and 19<sup>th</sup> editions. Take a grab sample of the discharge and pour it into two separate containers. Analyze the sample and the duplicate for pH within 15 minutes of collection. Results should agree within  $\pm 0.1$  S.U. Record both results in lab records. Do not average the results. Develop a Standard Operating Procedure that states whether the sample or the duplicate will always be reported on the DMR.
- Record sample temperature.

**Total Residual Chlorine (TRC) requirements:** [SM 4500-Cl G]

- A daily verification of calibration using 2 standards that bracket the expected result is now required. Using the SpecCheck standards is acceptable. Record results.
- An Initial Demonstration of Capability (IDC) is now required for each analyst who performs the test. Prepare 1 chlorine standard of known concentration, and perform at least 4 replicate analyses. Document results for each analyst. This is just a one-time test for each analyst.
- A duplicate is required to be analyzed at least daily if referencing the 20<sup>th</sup> or 21<sup>st</sup> edition, or at least one in every 20 samples referencing 18<sup>th</sup> and 19<sup>th</sup> editions. Take a grab sample and pour it into 2 separate containers. Analyze the sample and the duplicate within 15 minutes of collection. Relative Percent Difference should be  $\leq 20\%$ . The results should be averaged before reporting. Analyze 1 duplicate per 20 samples daily (if less than 20 samples are analyzed per day, only 1 duplicate is required).

**Dissolved Oxygen requirements:** [SM 4500-O G]

- Verify temperature correction data by frequently checking 1 or 2 temperature points. To do this, calibrate the meter and then set it to %Cal, document the %Cal and the temperature. Now increase or lower the temperature and read %Cal. The %Cal should be the same at both temperatures. This proves the meter is compensating for the different temperatures. "Frequently" is not defined by Standard Methods. Use your best professional judgment.
- A duplicate is required to be analyzed daily only if a grab sample is collected. Grab a large sample and divide into 2 BOD Bottles. Analyze the sample and duplicate for D.O. within 15 minutes of collection. Relative Percent Difference should be  $\leq 20\%$ . If D.O. is measured *in situ*, no duplicate is required. Average the sample result and duplicate result and report as 1 value.
- Record sample temperature when taking D.O. measurements.

**Relative Percent Difference (RPD)**

- $RPD = \text{difference between concentration of the duplicates} \div \text{avg. concentration} \times 100$

PERMITTEE NAME/ADDRESS (INCLUDE CITY NAME/LOCATION IF DIFFERENT)

NAME: Missionary Learning Center WWTP  
ADDRESS: 16492 Missionary Learning Center Ln  
Rockville VA 23146

CITY: ROCKVILLE  
LOCATION: VA 23146

DEPARTMENT OF ENVIRONMENTAL QUALITY  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

VA0067105  
PERMIT NUMBER  
001  
DISCHARGE NUMBER

MONITORING PERIOD  
YEAR MO DAY  
07 11 01 TO 07 11 30

FROM

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.

PARAMETER	QUANTITY OR LOADING		QUALITY OR CONCENTRATION			NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS	
101 FLOW	REPORTD 0.010	0.022	MGD	*****	*****	*****	*****	EST
	REQRMNT 0.040	NL	MGD	*****	*****	*****	*****	EST
102 PH	REPORTD			7.0	8.5		SU	GRAB
	REQRMNT	*****		6.0	9.0		SU	GRAB
104 TSS	REPORTD 0.2	0.2	KG/D	*****	3.5	45	MG/L	GRAB
	REQRMNT 4.5	6.7	KG/D	*****	30		MG/L	GRAB
107 DO	REPORTD	*****		7.21	*****	*****	MG/L	GRAB
	REQRMNT	*****		5.0 7.17	*****	*****	MG/L	GRAB
109 AMMONIA, AS N	REPORTD	*****		*****	<QL	<QL	MG/L	GRAB
	REQRMNT	*****		*****	21	21	MG/L	GRAB
157 CL2, TOTAL CONTACT	REPORTD	*****		1.0	*****	*****	MG/L	GRAB
	REQRMNT	*****		1.0	*****	*****	MG/L	GRAB
159 CHLORIDE	REPORTD <QL	<QL	KG/D	*****	<QL	<QL	MG/L	GRAB
	REQRMNT 3.7	5.6	KG/D	*****	25	38	MG/L	GRAB
165 CL2, INST RES MAX	REPORTD	*****		*****	<QL	<QL	MG/L	GRAB
	REQRMNT	*****		*****	0.18	0.20	MG/L	GRAB

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS

QL's = NH43 = 0.2 mg/L, CBOD = 5.0 mg/L, TSS = 1 mg/L

OPERATOR IN RESPONSIBLE CHARGE

DATE

TOTAL OCCURRENCES	TOTAL FLOW (M.G.)	TOTAL BODS (K.G.)	TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
0	0	0	W.C. Long	W.C. Long	0005562	07	12	06
PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT			TELEPHONE					
William Ward			804 620-3888					
TYPED OR PRINTED NAME			SIGNATURE					

DEPARTMENT OF ENVIRONMENTAL QUALITY  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM(NPDES)  
DISCHARGE MONITORING REPORT(DMR)

Municipal Minor 04/01/2003

DEPT. OF ENVIRONMENTAL QUALITY  
(REGIONAL OFFICE)

Piedmont Regional Office  
4949-A Cox Road

Glen Allen

**NOTE: READ PERMIT AND GENERAL INSTRUCTIONS BEFORE COMPLETING THIS FORM.**

VA00671.05	001
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
07	11	01	07	11	30

TO

**FROM**

NAME Missionary Learning Center WWTP  
ADDRESS 16492 Missionary Learning Center Ln  
Rockville VA 23146

FACILITY LOCATION

[illegible]

ADDITIONAL PERMIT REQUIREMENTS OR COMMENTS

BYPASSES AND VERFLOWS	TOTAL OCCURRENCES		TOTAL FLOW(M.G.)	TOTAL BODS(K.G.)	OPERATOR IN RESPONSIBLE CHARGE				DATE	
					TYPED OR PRINTED NAME	SIGNATURE	CERTIFICATE NO.	YEAR	MO.	DAY
<p>CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE OPERATION, THE INFORMATION SUBMITTED IS TO THE BEST OF MY KNOWLEDGE AND BELIEF TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT FOR KNOWING VIOLATIONS. SEE 18 U.S.C. &amp; 1001 AND 33 U.S.C. &amp; 1001. (Penalties under these statutes may include fines up to \$10,000 and/or 5 years imprisonment of between 6 months and 5 years.)</p>	0		0	0	W.C. LONG	W.C. Long	0005602	07	12	06
					PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE				
					William Warr	William Warr	804820-3838	07	12	06
					TYPED OR PRINTED NAME	SIGNATURE		YEAR	MO.	DAY

\* SHOULD INDICATE RESULT IS FOR CHLORIDE

CONTACT TANK OUTLET & NOT FINAL EFFLUENT

Date:	Missionary L.C.	Flow	Aeration Tank			Waste			Final Effluent			Monthly Grab		
			PH	DO	SSV <sub>30</sub>	WAS	Solids	Heaved In	PH	DO	*TRC	Dechlor	CBOD	TSS
		MG	SU	mg/L	m/L	Gals	Gals	Gals	SU	mg/L	mg/L	mg/L	mg/L	mg/L
1	DL	.014	6.0	5.57	240	0	0	0	7.5	11.54	1.0	0.00	<2	35
2	DL	.010	7.0	4.34	250	0	0	0	7.5	9.13	1.0	0.00		
3	NS	.007	7.0	4.31	240	0	0	0	7.5	9.18	1.4	0.00		
4	NS	.008	7.0	4.65	210	0	0	0	7.5	10.29	2.0	0.00		
5	DL	.011	7.0	5.21	210	1500	0	0	8.0	8.75	1.4	0.00		
6	NS	.008	6.5	7.66	210	0	0	0	7.5	10.75	1.0	0.00		
7	DL	.013	7.0	6.41	220	0	0	0	8.0	9.76	2.0	0.00		
8	DL	.003	7.0	6.49	240	0	0	0	8.0	7.86	1.9	0.00		
9	DL	.012	7.0	5.74	220	0	0	0	8.0	8.81	1.9	0.00		
10	NS	.007	6.0	7.16	200	0	0	0	7.5	10.40	1.0	0.00		
11	NS	.015	7.0	5.22	200	0	0	0	7.5	10.45	2.2	0.00		
12	DL	.021	7.0	5.49	210	0	0	0	8.0	9.73	2.2	0.00		
13	NS	.006	7.0	4.51	200	0	0	0	7.5	8.71	2.2	0.00		
14	DL	.008	7.0	5.11	200	1500	3000	3000	7.0	7.28	2.0	0.00		
15	DL	.010	7.0	6.66	200	0	0	0	8.0	11.39	1.8	0.00		
16	DL	.013	7.0	6.38	190	0	0	0	8.0	7.21	1.3	0.00		
17	NS	.009	6.0	4.06	150	0	0	0	7.5	10.36	2.0	0.00		
18	NS	.007	7.0	4.56	190	0	0	0	7.0	9.58	2.2	0.00		
19	NS	.006	6.5	5.29	150	0	0	0	7.5	10.60	2.0	0.00		
20	NS	.010	7.0	4.66	160	0	0	0	7.5	10.44	1.4	0.00		
21	DL	.022	7.0	5.68	160	0	0	0	7.5	7.24	1.7	0.00		
22	DL	.008	7.5	3.50	190	0	0	0	7.5	9.40	3.1	0.00		
23	DL	.005	7.5	4.84	180	0	0	0	8.5	7.21	1.9	0.00		
24	NS	.009	6.0	4.25	170	0	0	0	7.5	12.60	2.0	0.00		
25	NS	.005	7.0	6.04	160	0	0	0	7.5	10.55	2.0	0.00		
26	DL	.011	7.0	2.21	180	1500	0	0	7.5	8.69	2.4	0.00		
27	NS	.006	6.5	4.52	190	1500	0	0	7.5	12.50	1.0	0.00		
28	DL	.012	7.5	7.17	210	0	0	0	7.5	7.17	1.3	0.00		
29	DL	.015	7.0	6.11	200	1500	0	0	7.5	8.84	1.0	0.00		
30	DL	.017	6.0	3.34	180	6000	6000	6000	7.5	13.90	3.3	0.00		
31									7.17					
Min.									7.0	7.21	1.0			
Max.									8.5					
Avg.														

TOTAL MG FLOW = 0.308

COMMENTS: 11-27-07 D.O. IN A/B IS 6.69 mg/L

Min.

Max.

Avg.



EnviroCompliance Laboratories, Inc.  
10357 Old Keaton Road  
Ashland, VA 23005  
(804) 550-3971 Fax (804) 550-3826

# CHAIN OF CUSTODY

Page 1 of 1

Client: LODGE # A-550

Contact:

Address: \_\_\_\_\_  
City: \_\_\_\_\_  
Phone: 769766  
Fax: \_\_\_\_\_  
PO No. \_\_\_\_\_

ANALYSIS  
P I R S  
C E D / G I V  
M A T I X  
# C O N T L

PROJECT NO. \_\_\_\_\_ PROJECT NAME: MTLCO  
(Print)  
SAMPLERS: (Signatures) C. Long  
STATION DATE TIME SAMPLE IDENTIFICATION  
1. 11/1/07 2:08 Final  
2. \_\_\_\_\_  
3. \_\_\_\_\_  
4. \_\_\_\_\_  
5. \_\_\_\_\_  
6. \_\_\_\_\_  
7. \_\_\_\_\_  
8. \_\_\_\_\_  
9. \_\_\_\_\_  
10. \_\_\_\_\_  
11. \_\_\_\_\_  
12. \_\_\_\_\_  
13. \_\_\_\_\_  
14. \_\_\_\_\_  
15. \_\_\_\_\_  
16. \_\_\_\_\_  
17. \_\_\_\_\_  
18. \_\_\_\_\_  
19. \_\_\_\_\_  
20. \_\_\_\_\_

1.	Lead
2.	
3.	
4.	SHOULD INDICATE "S"
5.	(SEE "PRESERVATIVES" BELOW)
6.	FOR AMMONIA.
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	

Relinquished by: (Signature) <u>C. Long</u>	Date: <u>11/1/07 1545</u>	Time: _____	Relinquished by: (Signature) <u>Chris W. [Signature]</u>	Date: _____	Time: _____
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)	Date	Time

L.H. R7875553 Rec: 11-01 Due: 11/06  
C800 TSS  
RH3

Preservatives: N=Nitric H=Hydrochloric Na=Sodium Hydroxide S=Sulfuric T=Thiosulfate Z=Zinc Acetate





LABORATORIES, INC.

Long & Associates  
Attn: Cody Long  
P.O. Box 300  
Aylett, VA 23009-0300

## Analytical Summary

10357 Old Keeton Road  
Ashland, Virginia 23005  
Phone 804 550 3971  
Fax 804 550 3826

Project Name : Missionary Learning Center  
Date Received: November 01, 2007  
Date Sampled : November 01, 2007  
Time Sampled : 14:08  
Date Issued : November 16, 2007

Lab # 1(A-C)/Sample ID	Final			Date/Time	Date/Time		
Parameter	Result	Units	DL	Prepared	Analyzed	Method	Analyst
CBOD	< 2	mg/l	2	11-02/1400	11-07/1100	5210B	R.R
TSS	3.5	mg/l	1.0	11-06/1400	11-08/1400	2540 D	ISW
Ammonia (as N)	BDL	mg/l	.1	11-08/1005	11-08/1015	4500-NH3F	MDM

BDL = Below Detection Limit

All methods are 40 CFR 136 March 12, 2007, Table IB approved.  
Reference to Standard Methods is 18th ed.

  
Carrie E. Sisk  
QA Coordinator

R7B75683-1

## Attachment E

### Effluent Data

Parameter	Maximum Daily Value		Average Daily Value		
	Value	Units	Value	Units	No. Samples
pH (minimum)	7.0	S.U.			
pH (maximum)	8.5	S.U.			
Flow Rate	0.044	MGD	0.016	MGD	365
Temperature (Winter)	12	°C	12	°C	3
Temperature (Summer)	24	°C	24	°C	3

Pollutant	Maximum Daily Discharge		Average Daily Discharge		
	Conc.	Units	Conc.	Units	No. Samples
cBOD <sub>5</sub>	22	mg/L	3	mg/L	12
Fecal Coliform	<2	MPN/ 100mL			3
TSS	6	mg/L	4	mg/L	12



### DMR Data

	Monthly Maximum					
	pH min S.U.	pH Max S.U.	DO mg/L	NH <sub>3</sub> mg/L	cBOD <sub>5</sub> mg/L	TSS mg/L
10-Jan-05	8	8	7.95	0.3	<QL	12.5
10-Feb-05	7.5	8	7.95	<QL	<QL	2.4
10-Mar-05	7.5	8.5	9.73	0.7	<QL	6.3
10-Apr-05	8	8	7.68	<QL	6	14.4
10-May-05	8	8	8	<QL	5	20.5
10-Jun-05	8	8	6.08	<.1	10	21.1
10-Jul-05	6.5	8.5	6.5	<QL	<QL	4.2
10-Aug-05	8	8	6.05	1.3	<QL	19.3
10-Sep-05	8	8	5.75	7.9	<QL	7.1
10-Oct-05	8	8	5.91	0.3	<QL	7
10-Nov-05	8	8	7.5	0.7	<QL	14.8
10-Dec-05	7	8	7.56	<.1	<QL	9.3
10-Jan-06	7.5	8	9.52	<QL	<QL	13.7
10-Feb-06	8	8	8.64	0.4	6	15.5
10-Mar-06	7.5	8	9.1	<QL	<QL	1.6
10-Apr-06	8	8.5	8.13	0.6	<QL	6.3
10-May-06	7.5	8.5	6.6	<QL	6	29.6
10-Jun-06	7.5	9	6.14	<QL	<QL	5.7
10-Jul-06	7.5	8	6.7	<QL	<QL	9.4
10-Aug-06	7.5	8.5	6.79	0.2	5	5.5
10-Sep-06	7.5	8	6.2	<QL	6	4.4
10-Oct-06	7.5	8	6.85	<.1	22	3.4
10-Nov-06	7.5	8	7.05	<QL	<QL	2.2
10-Dec-06	7	8	6.94	<QL	<QL	2.6
10-Jan-07	7.5	8.5	8.55	0.4	<QL	3.2
10-Feb-07	8	8.5	7.44	<QL	<QL	4.8
10-Mar-07	7.5	8.5	8.2	<QL	<QL	3.2
10-Apr-07	7	8	7.66	0.2	<QL	3.8
10-May-07	7.5	8.5	7.01	<QL	<QL	4.7
10-Jun-07	7	8.5	7.04	0.2	4	6.2
10-Jul-07	7	8.5	7.12	0.2	<QL	2.7
10-Aug-07	7	8.5	6.21	0.2	<QL	2.7
10-Sep-07	7	8.5	6.75	<QL	<QL	2.4
10-Oct-07	7	8.5	6.36	6.7	<QL	3.5
10-Nov-07	7.5	8.5	7.02	<QL	<QL	1.6
10-Dec-07	7	8.5	7.21	<QL	<QL	3.5
10-Jan-08	7.5	8	8.61	<QL	<QL	5
10-Feb-08	7.5	8.5	7.18	<QL	<QL	4.9
<b>Average</b>	<b>7.5</b>	<b>8.3</b>	<b>7.3</b>	<b>0.6</b>	<b>1.8</b>	<b>7.7</b>
<b>90th%</b>	<b>8.0</b>	<b>8.5</b>	<b>8.6</b>	<b>0.7</b>	<b>6.0</b>	<b>16.6</b>
<b>10th%</b>	<b>7.0</b>	<b>8.0</b>	<b>6.1</b>	<b>0.0</b>	<b>0.0</b>	<b>2.4</b>

## **Attachment F**

### Effluent Limitations Evaluations

Mixing Zone Predictions for

MLC WWTP

Effluent Flow = 0.04 MGD  
Stream 7Q10 = 5.3 MGD  
Stream 30Q10 = 7.9 MGD  
Stream 1Q10 = 4.1 MGD  
Stream slope = 0.00038 ft/ft  
Stream width = 250 ft  
Bottom scale = 3  
Channel scale = 1

-----

Mixing Zone Predictions @ 7Q10

Depth = .2877 ft  
Length = 168254.24 ft  
Velocity = .1149 ft/sec  
Residence Time = 16.947 days

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than 11.8% of the 7Q10 is used.

-----

Mixing Zone Predictions @ 30Q10

Depth = .3652 ft  
Length = 137898.1 ft  
Velocity = .1346 ft/sec  
Residence Time = 11.8545 days

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than 16.87% of the 30Q10 is used.

-----

Mixing Zone Predictions @ 1Q10

Depth = .247 ft  
Length = 191151.48 ft  
Velocity = .1038 ft/sec  
Residence Time = 511.5358 hours

Recommendation:

A complete mix assumption is appropriate for this situation providing no more than .2% of the 1Q10 is used.

-----

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Missionary Learning Center  
Receiving Stream: South Anna River

Permit No.: VA0007105

Version: OWP Guidance Memo 00-20 t1 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO <sub>3</sub> ) =	28.3 mg/L	1Q10 (Annual) =	4.1 MGD	Annual - 1Q10 Mix =	0.2 %	Mean Hardness (as CaCO <sub>3</sub> ) =	25 mg/L
90% Temperature (Annual) =	24.3 deg C	7Q10 (Annual) =	5.3 MGD	- 7Q10 Mix =	11.8 %	90% Temp (Annual) =	24 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	7.9 MGD	- 30Q10 Mix =	16.87 %	90% Temp (Wet season) =	deg C
90% Maximum pH =	7.1 SU	1Q10 (Wet season) =	MGD	Wet Season - 1Q10 Mix =	%	90% Maximum pH =	8.5 SU
10% Maximum pH =	6.4 SU	30Q10 (Wet season) =	MGD	- 30Q10 Mix =	%	10% Maximum pH =	8 SU
Tier Designation (1 or 2) =	2	30Q5 =	12 MGD			Discharge Flow =	0.04 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	52 MGD				
Trout Present Y/N? =	n	Annual Average =	MGD				
Early Life Stages Present Y/N? =	y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Acenaphthene	0	--	--	na	2.7E+03	--	--	na	8.1E+05	--	--	na	8.1E+04	--	--	na
Acroline	0	--	--	na	7.8E+02	--	--	na	2.3E+05	--	--	na	2.3E+04	--	--	na
Acrylonitrile	0	--	--	na	6.6E+00	--	--	na	8.6E+03	--	--	na	8.6E+02	--	--	na
Aldrin	0	3.0E+00	--	na	1.4E+03	3.6E+00	--	na	1.8E+00	7.9E-01	--	na	1.8E-01	3.6E+00	--	na
Ammonia-N (mg/l)	0	1.23E+01	3.00E+00	na	--	1.5E+01	1.0E+02	na	--	8.18E+00	7.53E-01	na	--	1.5E+01	1.0E+02	na
Ammonia-N (mg/l)	0	3.20E+00	1.08E+00	na	--	3.2E+00	1.1E+00	na	--	8.01E-01	2.72E-01	na	--	8.0E-01	2.7E-01	na
Anthrane	0	--	--	na	1.1E+05	--	--	na	3.3E+07	--	--	na	3.3E+06	--	--	na
Antimony	0	--	--	na	4.3E+03	--	--	na	1.3E+06	--	--	na	1.3E+05	--	--	na
Arsenic	0	3.4E+02	1.5E+02	na	--	4.1E+02	2.5E+03	na	--	8.5E+01	3.8E+01	na	--	4.1E+02	2.5E+03	na
Barium	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na
Benzene	0	--	--	na	7.1E+02	--	--	na	9.2E+05	--	--	na	9.2E+04	--	--	na
Benzidine	0	--	--	na	5.4E-03	--	--	na	7.0E+00	--	--	na	7.0E-01	--	--	na
Benzo (a) anthracene	0	--	--	na	4.9E-01	--	--	na	6.4E+02	--	--	na	6.4E+01	--	--	na
Benzo (b) fluoranthene	0	--	--	na	4.9E-01	--	--	na	6.4E+02	--	--	na	6.4E+01	--	--	na
Benzo (k) fluoranthene	0	--	--	na	4.9E-01	--	--	na	6.4E+02	--	--	na	6.4E+01	--	--	na
Benzo (a) pyrene	0	--	--	na	4.9E-01	--	--	na	6.4E+02	--	--	na	6.4E+01	--	--	na
Bis(2-Chloroethyl) Ether	0	--	--	na	1.4E+01	--	--	na	4.2E+03	--	--	na	4.2E+02	--	--	na
Bis(2-Chloroisopropyl) Ether	0	--	--	na	1.7E+05	--	--	na	5.1E+07	--	--	na	5.1E+06	--	--	na
Bromoforn	0	--	--	na	3.6E+03	--	--	na	4.7E+06	--	--	na	4.7E+05	--	--	na
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	1.6E+06	--	--	na	1.6E+05	--	--	na
Cadmium	0	8.4E-01	4.2E-01	na	--	1.0E+00	7.0E+00	na	--	2.4E-01	1.1E-01	na	--	1.0E+00	7.0E+00	na
Carbon Tetrachloride	0	--	--	na	4.4E+01	--	--	na	5.7E+04	--	--	na	5.7E+03	--	--	na
Chlordane	0	2.4E+00	4.3E-03	na	2.2E-02	2.9E+00	7.2E-02	na	2.9E+01	6.0E-01	1.1E-03	na	2.9E+00	2.9E+00	7.2E-02	na
Chlordane	0	8.6E+05	2.3E+05	na	--	1.0E+06	3.8E+06	na	--	2.2E+05	5.8E+04	na	--	1.0E+06	3.8E+06	na
Chloride	0	1.9E+01	1.1E+01	na	--	2.3E+01	1.8E+02	na	--	4.9E+00	2.9E+00	na	--	2.3E+01	1.8E+02	na
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	6.3E+06	--	--	na	6.3E+05	--	--	na

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane <sup>c</sup>	0	--	--	na	3.4E+02	--	--	na	4.4E+05	--	--	na	3.4E+01	--	--	na	4.4E+04	--	--	na	4.4E+04
Chloroform <sup>c</sup>	0	--	--	na	2.9E+04	--	--	na	3.8E+07	--	--	na	2.9E+03	--	--	na	3.8E+06	--	--	na	3.8E+06
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	1.3E+06	--	--	na	4.3E+02	--	--	na	1.3E+05	--	--	na	1.3E+05
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	1.2E+05	--	--	na	4.0E+01	--	--	na	1.2E+04	--	--	na	1.2E+04
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.0E-01	6.8E-01	na	--	2.1E-02	1.0E-02	na	--	2.1E+00	1.4E+00	na	--	1.0E-01	6.8E-01	na	--
Chromium III	0	1.9E+02	2.6E+01	na	--	2.2E+02	4.4E+02	na	--	5.1E+01	6.6E+00	na	--	5.2E+03	8.8E+02	na	--	2.2E+02	4.4E+02	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.9E+01	1.8E+02	na	--	4.0E+00	2.8E+00	na	--	4.1E+02	3.7E+02	na	--	1.9E+01	1.8E+02	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Chrysene <sup>c</sup>	0	--	--	na	4.9E-01	--	--	na	6.4E+02	--	--	na	4.9E-02	--	--	na	6.4E+01	--	--	na	6.4E+01
Copper	0	3.7E+00	3.0E+00	na	--	4.5E+00	5.0E+01	na	--	1.0E+00	7.6E-01	na	--	1.1E+02	1.0E+02	na	--	4.5E+00	5.0E+01	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.7E+01	8.7E+01	na	6.5E+07	5.8E+00	1.3E+00	na	2.2E+04	5.7E+02	1.7E+02	na	6.5E+06	2.7E+01	8.7E+01	na	6.5E+06
DDD <sup>c</sup>	0	--	--	na	8.4E-03	--	--	na	1.1E+01	--	--	na	8.4E-04	--	--	na	1.1E+00	--	--	na	1.1E+00
DDE <sup>c</sup>	0	--	--	na	5.9E-03	--	--	na	7.7E+00	--	--	na	5.9E-04	--	--	na	7.7E-01	--	--	na	7.7E-01
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	5.9E-03	1.3E+00	1.7E-02	na	7.7E+00	2.8E-01	2.5E-04	na	5.9E-04	2.8E+01	3.3E-02	na	7.7E-01	1.3E+00	1.7E-02	na	7.7E-01
Demeton	0	--	1.0E-01	na	--	--	1.7E+00	na	--	--	2.5E-02	na	--	--	3.3E+00	na	--	--	1.7E+00	na	--
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	na	4.9E-01	--	--	na	6.4E+02	--	--	na	4.9E-02	--	--	na	6.4E+01	--	--	na	6.4E+01
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	3.6E+06	--	--	na	1.2E+03	--	--	na	3.6E+05	--	--	na	3.6E+05
Dichloromethane (Methylene Chloride) <sup>c</sup>	0	--	--	na	1.6E+04	--	--	na	2.1E+07	--	--	na	1.6E+03	--	--	na	2.1E+06	--	--	na	2.1E+06
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	5.1E+06	--	--	na	1.7E+03	--	--	na	5.1E+05	--	--	na	5.1E+05
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	7.8E+05	--	--	na	2.6E+02	--	--	na	7.8E+04	--	--	na	7.8E+04
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	7.8E+05	--	--	na	2.6E+02	--	--	na	7.8E+04	--	--	na	7.8E+04
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	na	7.7E-01	--	--	na	1.0E+03	--	--	na	7.7E-02	--	--	na	1.0E+02	--	--	na	1.0E+02
Dichlorobromomethane <sup>c</sup>	0	--	--	na	4.6E+02	--	--	na	6.0E+05	--	--	na	4.6E+01	--	--	na	6.0E+04	--	--	na	6.0E+04
1,2-Dichloroethane <sup>c</sup>	0	--	--	na	9.9E+02	--	--	na	1.3E+06	--	--	na	9.9E+01	--	--	na	1.3E+05	--	--	na	1.3E+05
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	5.1E+06	--	--	na	1.7E+03	--	--	na	5.1E+05	--	--	na	5.1E+05
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	4.2E+07	--	--	na	1.4E+04	--	--	na	4.2E+06	--	--	na	4.2E+06
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	2.4E+05	--	--	na	7.9E+01	--	--	na	2.4E+04	--	--	na	2.4E+04
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
1,2-Dichloropropane <sup>c</sup>	0	--	--	na	3.9E+02	--	--	na	5.1E+05	--	--	na	3.9E+01	--	--	na	5.1E+04	--	--	na	5.1E+04
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	5.1E+05	--	--	na	1.7E+02	--	--	na	5.1E+04	--	--	na	5.1E+04
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	1.4E-03	2.9E-01	9.3E-01	na	1.8E+00	6.0E-02	1.4E-02	na	1.4E-04	6.2E+00	1.9E+00	na	1.8E-01	2.9E-01	9.3E-01	na	1.8E-01
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	3.6E+07	--	--	na	1.2E+04	--	--	na	3.6E+06	--	--	na	3.6E+06
Di-2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	5.9E+01	--	--	na	7.7E+04	--	--	na	5.9E+00	--	--	na	7.7E+03	--	--	na	7.7E+03
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	6.9E+05	--	--	na	2.3E+02	--	--	na	6.9E+04	--	--	na	6.9E+04
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	8.7E+08	--	--	na	2.9E+05	--	--	na	8.7E+07	--	--	na	8.7E+07
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	3.6E+06	--	--	na	1.2E+03	--	--	na	3.6E+05	--	--	na	3.6E+05
2,4-Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	4.2E+06	--	--	na	1.4E+03	--	--	na	4.2E+05	--	--	na	4.2E+05
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	2.3E+05	--	--	na	7.7E+01	--	--	na	2.3E+04	--	--	na	2.3E+04
2,4-Dinitrochlorobenzene <sup>c</sup>	0	--	--	na	9.1E+01	--	--	na	1.2E+05	--	--	na	9.1E+00	--	--	na	1.2E+04	--	--	na	1.2E+04
l,elrachlorodibenzo-p-dioxin (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	na	1.2E-07	--	--	na	1.2E-07	--	--	na	na
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	na	5.4E+00	--	--	na	7.0E+03	--	--	na	5.4E-01	--	--	na	7.0E+02	--	--	na	7.0E+02
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.7E-01	9.3E-01	na	7.2E+04	5.8E-02	1.4E-02	na	2.4E+01	5.7E+00	1.9E+00	na	7.2E+03	2.7E-01	9.3E-01	na	7.2E+03
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.7E-01	9.3E-01	na	7.2E+04	5.8E-02	1.4E-02	na	2.4E+01	5.7E+00	1.9E+00	na	7.2E+03	2.7E-01	9.3E-01	na	7.2E+03
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	7.2E+04	--	--	na	2.4E+01	--	--	na	7.2E+03	--	--	na	7.2E+03
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	1.0E-01	6.0E-01	na	2.4E+02	2.2E-02	9.0E-03	na	8.1E-02	2.2E+00	1.2E+00	na	2.4E+01	1.0E-01	6.0E-01	na	2.4E+01
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	2.4E+02	--	--	na	8.1E-02	--	--	na	2.4E+01	--	--	na	2.4E+01

Parameter (ug/l unless noted)	Background Conc	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	8.7E+06	--	--	na	2.9E+03	--	--	na	8.7E+05	--	--	na	8.7E+05
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	1.1E+05	--	--	na	3.7E+01	--	--	na	1.1E+04	--	--	na	1.1E+04
Fluorene	0	--	--	na	1.4E+04	--	--	na	4.2E+06	--	--	na	1.4E+03	--	--	na	4.2E+05	--	--	na	4.2E+05
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.7E-01	na	--	--	2.5E-03	na	--	--	3.3E-01	na	--	--	1.7E-01	na	--
Heptachlor <sup>C</sup>	5.2E-01	3.8E-03	na	2.1E-03	--	6.3E-01	6.3E-02	na	2.7E+00	1.3E-01	9.5E-04	na	2.1E-04	1.3E+01	1.3E-01	na	2.7E-01	6.3E-01	6.3E-02	na	2.7E-01
Heptachlor Epoxide <sup>C</sup>	5.2E-01	3.8E-03	na	1.1E-03	--	6.3E-01	6.3E-02	na	1.4E+00	1.3E-01	9.5E-04	na	1.1E-04	1.3E+01	1.3E-01	na	1.4E-01	6.3E-01	6.3E-02	na	1.4E-01
Hexachlorobenzene <sup>C</sup>	0	--	--	na	7.7E-03	--	--	na	1.0E+01	--	--	na	7.7E-04	--	--	na	1.0E+00	--	--	na	1.0E+00
Hexachlorobutadiene <sup>C</sup>	0	--	--	na	5.0E+02	--	--	na	6.5E+05	--	--	na	5.0E+01	--	--	na	6.5E+04	--	--	na	6.5E+04
Hexachlorocyclohexane	0	--	--	na	1.3E-01	--	--	na	1.7E+02	--	--	na	1.3E-02	--	--	na	1.7E+01	--	--	na	1.7E+01
Alpha-BHC <sup>C</sup>	0	--	--	na	4.6E-01	--	--	na	6.0E+02	--	--	na	4.6E-02	--	--	na	6.0E+01	--	--	na	6.0E+01
Beta-BHC <sup>C</sup>	0	--	--	na	6.3E-01	--	--	na	8.2E+02	2.4E-01	--	na	6.3E-02	2.5E+01	--	na	8.2E+01	1.1E+00	--	na	8.2E+01
Hexachlorocyclohexane Gamma-BHC <sup>C</sup> (Lindane)	0	9.5E-01	na	na	--	1.1E+00	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	5.1E+06	--	--	na	1.7E+03	--	--	na	5.1E+05	--	--	na	5.1E+05
Hexachloroethane <sup>C</sup>	0	--	--	na	8.9E+01	--	--	na	1.2E+05	--	--	na	8.9E+00	--	--	na	1.2E+04	--	--	na	1.2E+04
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	3.3E+01	na	--	--	5.0E-01	na	--	--	6.7E+01	na	--	--	3.3E+01	na	--
Indeno (1,2,3-cd) pyrene <sup>C</sup>	0	--	--	na	4.9E-01	--	--	na	6.4E+02	--	--	na	4.9E-02	--	--	na	6.4E+01	--	--	na	6.4E+01
Iron	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Isophorone <sup>C</sup>	0	--	--	na	2.8E+04	--	--	na	3.4E+07	--	--	na	2.8E+03	--	--	na	3.4E+06	--	--	na	3.4E+06
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Lead	0	2.1E+01	2.7E+00	na	--	2.5E+01	4.5E+01	na	--	6.0E+00	6.8E-01	na	--	6.2E+02	9.0E+01	na	--	2.5E+01	4.5E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.7E+00	na	--	--	2.5E-02	na	--	--	3.3E+00	na	--	--	1.7E+00	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.7E+00	1.3E+01	na	1.5E+01	3.9E-01	1.9E-01	na	5.1E-03	3.6E+01	2.8E+01	na	1.5E+00	1.7E+00	1.3E+01	na	1.5E+00
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	1.2E+06	--	--	na	4.0E+02	--	--	na	1.2E+05	--	--	na	1.2E+05
Methoxychlor	0	--	3.0E-02	na	--	--	5.0E-01	na	--	--	7.5E-03	na	--	--	1.0E+00	na	--	--	5.0E-01	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	6.3E+06	--	--	na	2.1E+03	--	--	na	6.3E+05	--	--	na	6.3E+05
Nickel	0	5.8E+01	6.9E+00	na	4.6E+03	6.9E+01	1.2E+02	na	1.4E+06	1.6E+01	1.7E+00	na	4.6E+02	1.6E+03	2.3E+02	na	1.4E+05	6.9E+01	1.2E+02	na	1.4E+05
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	5.7E+05	--	--	na	1.9E+02	--	--	na	5.7E+04	--	--	na	5.7E+04
N-Nitrosodimethylamine <sup>C</sup>	0	--	--	na	8.1E+01	--	--	na	1.1E+05	--	--	na	8.1E+00	--	--	na	1.1E+04	--	--	na	1.1E+04
N-Nitrosodiphenylamine <sup>C</sup>	0	--	--	na	1.6E+02	--	--	na	2.1E+05	--	--	na	1.6E+01	--	--	na	2.1E+04	--	--	na	2.1E+04
N-Nitrosodipropylamine <sup>C</sup>	0	--	--	na	1.4E+01	--	--	na	1.8E+04	--	--	na	1.4E+00	--	--	na	1.8E+03	--	--	na	1.8E+03
Parathion	0	6.5E-02	1.3E-02	na	--	7.8E-02	2.2E-01	na	--	1.6E-02	3.3E-03	na	--	1.7E+00	4.3E-01	na	--	7.8E-02	2.2E-01	na	--
PCB-1016	0	--	1.4E-02	na	--	--	2.3E-01	na	--	--	3.5E-03	na	--	--	4.7E-01	na	--	--	2.3E-01	na	--
PCB-1221	0	--	1.4E-02	na	--	--	2.3E-01	na	--	--	3.5E-03	na	--	--	4.7E-01	na	--	--	2.3E-01	na	--
PCB-1232	0	--	1.4E-02	na	--	--	2.3E-01	na	--	--	3.5E-03	na	--	--	4.7E-01	na	--	--	2.3E-01	na	--
PCB-1242	0	--	1.4E-02	na	--	--	2.3E-01	na	--	--	3.5E-03	na	--	--	4.7E-01	na	--	--	2.3E-01	na	--
PCB-1248	0	--	1.4E-02	na	--	--	2.3E-01	na	--	--	3.5E-03	na	--	--	4.7E-01	na	--	--	2.3E-01	na	--
PCB-1254	0	--	1.4E-02	na	--	--	2.3E-01	na	--	--	3.5E-03	na	--	--	4.7E-01	na	--	--	2.3E-01	na	--
PCB-1260	0	--	1.4E-02	na	--	--	2.3E-01	na	--	--	3.5E-03	na	--	--	4.7E-01	na	--	--	2.3E-01	na	--
PCB Total <sup>C</sup>	0	--	--	na	1.7E-03	--	--	na	2.2E+00	--	--	na	1.7E-04	--	--	na	2.2E+01	--	--	na	2.2E+01

Parameter (ug/l unless noted)	Background			Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
	Conc	Acute	Chronic	HH (PWS)	HH	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol <sup>c</sup>	0	9.8E+00	3.8E+00	na	8.2E+01	1.1E+05	1.2E+01	6.3E+01	na	8.2E+00	1.2E+00	9.2E-01	na	8.2E+00	1.2E+02	6.3E+01	na	1.1E+04
Phenol	0	--	--	na	4.6E+06	1.4E+09	--	--	na	4.6E+05	--	--	na	1.4E+08	--	--	na	1.4E+08
Pyrene	0	--	--	na	1.1E+04	3.3E+06	--	--	na	1.1E+03	--	--	na	3.3E+05	--	--	na	3.3E+05
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	--	na	--	--	--	na	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1.5E+01	4.5E+03	--	--	na	1.5E+00	--	--	na	4.5E+02	--	--	na	4.5E+02
Beta and Photon Activity (mrem/yr)	0	--	--	na	4.0E+00	1.2E+03	--	--	na	4.0E-01	--	--	na	1.2E+02	--	--	na	1.2E+02
Strontium-90	0	--	--	na	8.0E+00	2.4E+03	--	--	na	8.0E-01	--	--	na	2.4E+02	--	--	na	2.4E+02
Tritium	0	--	--	na	2.0E+04	6.0E+06	--	--	na	2.0E+03	--	--	na	6.0E+05	--	--	na	6.0E+05
Selenium	0	2.0E+01	5.0E+00	na	1.1E+04	3.3E+06	2.4E+01	8.3E+01	na	1.1E+03	5.0E+00	1.3E+00	na	3.3E+05	2.4E+01	8.3E+01	na	3.3E+05
Silver	0	3.3E-01	--	na	--	--	4.0E-01	--	na	--	9.8E-02	--	na	--	1.0E-01	--	na	--
Sulfate	0	--	--	na	--	--	--	--	na	--	--	--	na	--	--	--	na	--
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	1.1E+02	1.4E+05	--	--	na	1.1E+01	--	--	na	1.4E+04	--	--	na	1.4E+04
Tetrachloroethylene <sup>c</sup>	0	--	--	na	8.9E+01	1.2E+05	--	--	na	8.9E+00	--	--	na	1.2E+04	--	--	na	1.2E+04
Thallium	0	--	--	na	6.3E+00	1.9E+03	--	--	na	6.3E-01	--	--	na	1.9E+02	--	--	na	1.9E+02
Toluene	0	--	--	na	2.0E+05	6.0E+07	--	--	na	2.0E+04	--	--	na	6.0E+06	--	--	na	6.0E+06
Total dissolved solids	0	--	--	na	--	--	--	--	na	--	--	--	na	--	--	--	na	--
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	7.5E-03	9.8E+00	8.8E-01	3.3E-03	na	7.5E-04	1.8E-01	5.0E-05	na	9.8E-01	8.8E-01	3.3E-03	na	9.8E-01
Trichluytin	0	4.6E-01	6.3E-02	na	--	--	5.5E-01	1.0E+00	na	--	1.2E-01	1.6E-02	na	--	1.2E+01	1.0E+00	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9.4E+02	2.8E+05	--	--	na	9.4E+01	--	--	na	2.8E+04	--	--	na	2.8E+04
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	4.2E+02	5.5E+05	--	--	na	4.2E+01	--	--	na	5.5E+04	--	--	na	5.5E+04
Trichloroethylene <sup>c</sup>	0	--	--	na	8.1E+02	1.1E+06	--	--	na	8.1E+01	--	--	na	1.1E+05	--	--	na	1.1E+05
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	6.5E+01	8.5E+04	--	--	na	6.5E+00	--	--	na	8.5E+03	--	--	na	8.5E+03
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	--	na	--	--	--	na	--	--	--	na	--
Vinyl Chloride <sup>c</sup>	0	--	--	na	6.1E+01	7.9E+04	--	--	na	6.1E+00	--	--	na	7.9E+03	--	--	na	7.9E+03
Zinc	0	3.7E+01	4.0E+01	na	6.9E+04	2.1E+07	4.4E+01	6.7E+02	na	6.9E+03	1.0E+01	1.0E+01	na	2.1E+06	4.4E+01	6.7E+02	na	2.1E+06

# Notes

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regd. WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 3Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens.  
Harmonic Mean for Carcinogens, and Annual Average for Dioxin. Mixing ratios may be substituted for stream flows where appropriate

Metal	Target Value (SSTV)
Antimony	1.3E+05
Arsenic	1.6E+02
Barium	na
Cadmium	4.1E-01
Chromium III	9.0E+01
Chromium VI	7.7E+00
Copper	1.8E+00
Iron	na
Lead	1.0E+01
Manganese	na
Mercury	6.7E-01
Nickel	2.8E+01
Selenium	9.6E+00
Silver	1.6E-01
Zinc	1.8E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

### Ammonia (0.040 MGD)

Facility = MLC  
Chemical = Ammonia  
Chronic averaging period = 30  
WLAa = 15  
WLAc = 100  
Q.L. = 0.2  
# samples/mo. = 1  
# samples/wk. = 1

Summary of Statistics:  
# observations = 1  
Expected Value = 9  
Variance = 29.16  
C.V. = 0.6  
97th percentile daily values = 21.9007  
97th percentile 4 day average = 14.9741  
97th percentile 30 day average = 10.8544  
# < Q.L. = 0  
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity  
Maximum Daily Limit = 15  
Average Weekly limit = 15  
Average Monthly Limit = 15

The data are:  
9

Note: 9 mg/L was used to force a limitation per Guidance Memorandum 00-2011. As indicated, water quality-base effluent limitations of 15 mg/L are necessary.

### TRC (0.040 MGD)

Facility = MLC  
Chemical = TRC  
Chronic averaging period = 4  
WLAa = 23  
WLAc = 180  
Q.L. = 100  
# samples/mo. = 30  
# samples/wk. = 7

Summary of Statistics:  
# observations = 1  
Expected Value = 20000  
Variance = 1440000  
C.V. = 0.6  
97th percentile daily values = 48668.3  
97th percentile 4 day average = 33275.8  
97th percentile 30 day average = 24121.0  
# < Q.L. = 0  
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity  
Maximum Daily Limit = 23  
Average Weekly limit = 14.0462657552967  
Average Monthly Limit = 11.3992867689566

The data are:  
20000

Note: 20000 µg/L was used to force a limitation per Guidance Memorandum 00-2011. As indicated, the TRC limitation is 11µg/L (0.011 mg/L) monthly average and 14 µg/L (0.014 mg/L) weekly averages. However, antibacksliding prevents relaxation of limitations; therefore, the limitations from the 2003 permit reissuance will be carried forward.



## MSTRANTI DATA SOURCE REPORT

Stream Information	
Mean Hardness	8-SAR0121.22 (Attachment C)
90% Temperature	8-SAR0121.22 (Attachment C)
90% Maximum pH	8-SAR0121.22 (Attachment C)
10% Maximum pH	8-SAR0121.22 (Attachment C)
Tier Designation	Tier 2 (Attachment C)
Stream Flows	
All Data	Flow Frequency Determination (Attachment C)
Mixing Information	
High Flow Analysis	MIX.exe (Attachment F)
Effluent Information	
Mean Hardness	Attachment A Data (Attachment E)
90% Temperature	Application Data (Attachment E)
90% Maximum pH	Effluent Data (DMRs) (Attachment E)
10% Maximum pH	Effluent Data (DMRs) (Attachment E)
Discharge Flow	Design Flow as reported in application

**Attachment G**

Application Waiver Approval



## MEMORANDUM

### DEPARTMENT OF ENVIRONMENTAL QUALITY Piedmont Regional Office

4949-A Cox Road, Glen Allen, Virginia 23060-6295

804/527-5020

**TO:** Curt Linderman  
**FROM:** Gina Kelly  
**DATE:** March 27, 2008  
**SUBJECT:** Waiver Request for VA0067105 – Missionary Learning Center STP  
**COPIES:** File (R/W, right)

The permittee has requested a waiver from the Form 2A fecal coliform sampling with regards to the sample seasonality requirement (i.e. at least two samples must be taken at least four months apart). Please note the following:

- The facility is a discharger to South Anna River (in the York River Basin) and has a design flow rate of 0.040 or 0.065 MGD.
- The facility has provided data from three sample analyses for fecal coliform in the Form 2A; all samples were taken in the month of August.
- The reissued permit will require bacteria testing at a frequency of 2/Month to address a bacteria TMDL.
- Justifications cited for the waiver are:
  - (1) a review of the minimum chlorine concentrations does not indicate a disinfection problem; and
  - (2) sample results do not show concentrations of concern (reported <2N/ 100mL).

Due to an approved bacteria TMDL, this facility will have required bacteria monitoring with limitations; monitoring will occur, at minimum, twice per month. Accordingly, the spirit of the seasonality component of the bacteria testing will be captured in these new monitoring requirements and the associated limitations. Thus, I recommend waiving the timing requirement for the fecal coliform tests.

☒ Approved ☐ Denied

Comments:

*As recommended for this permit cycle, only.*

  
Signature

*3/28/08*  
Date

## **Attachment H**

Public Comments

**Kelly, Virginia**

**From:** Ellinghaus, Matthew B. [mbellinghaus@co.hanover.va.us]  
**Sent:** Tuesday, September 23, 2008 12:15 PM  
**To:** Kelly, Virginia  
**Subject:** RE: VA0067105 Missionary Learning Center STP VPDES Permit Reissuance

Ms. Kelly –

Thank you for the update. This change in practices satisfies our concerns and Hanover County DPU removes its objection to this re-issuance.

*Matthew Ellinghaus  
Assistant Chief of Operations & Maintenance  
Hanover Department of Public Utilities  
P.O. Box 470  
7516 County Complex Road  
Hanover, VA 23069*

*(804) 365-6701 (phone)  
(804) 365-6705 (fax)*

**From:** Kelly, Virginia [mailto:vekelly@deq.virginia.gov]  
**Sent:** Tuesday, September 23, 2008 11:45 AM  
**To:** Ellinghaus, Matthew B.  
**Subject:** RE: VA0067105 Missionary Learning Center STP VPDES Permit Reissuance

Hi Matthew,

The contract hauler for this facility notified me yesterday that they have since changed their hauling practices. They have received a hauling permit with the City of Richmond and will be utilizing the City's receiving stations.

I trust that this new information would adequately address Hanover County's concerns. Please let me know if that is not the case.

Thank you,  
Gina Kelly

**From:** Ellinghaus, Matthew B. [mailto:mbellinghaus@co.hanover.va.us]  
**Sent:** Wednesday, July 23, 2008 11:21 AM  
**To:** Kelly, Virginia  
**Cc:** VanGelder, David F.; Harsen, Frank  
**Subject:** VA0067105 Missionary Learning Center STP VPDES Permit Reissuance

Dear Ms. Kelly:

Thank you for the opportunity to comment on the referenced permit. We apologize for the comments being submitted late in the comment period but research was necessary. The public notice for the referenced permit indicated wastewater treatment plant sludge from the facility was to be discharged to the Hanover County Public Wastewater System. Please be advised that the Hanover County Code Section 20-16 limits the types of substances that can be discharged to the County system to "domestic septage, portable toilet waste, oil/grease trap waste, leachate or other similar wastewaters". Notwithstanding the aforementioned limitation, additional substances may be discharged with the "expressed written approval of the Director". The discharge of wastewater treatment plant sludge would therefore require the express written approval by the Director. Our records do not indicate such an approval was granted and we are requesting the hauler servicing the reference facility provide evidence such approval was received in the past but such evidence has not yet been provided.

9/24/2008

We are also providing the hauler guidance on receiving the necessary approval, if needed, to continue this operation.

Regardless, Hanover County Department of Public Utilities objects to being named in the permit as we have no contract with the referenced facility and, if permission is granted for the sludge to be discharged, we cannot warrant that such permission will continue for the five year permit duration. As an alternative, the Sludge Management Plan could state the sludge will be discharged to an authorized sludge receiving facility. Please notify us when the facility Sludge Management Plan is updated so we may remove our objection.

If you have any questions, please contact me by phone at (804) 365-6701 or by email at [mbellinghaus@co.hanover.va.us](mailto:mbellinghaus@co.hanover.va.us). Thank you for your time and consideration.

Sincerely,

Matthew Ellinghaus  
Assistant Chief of Operations and Maintenance

*Matthew Ellinghaus  
Assistant Chief of Operations & Maintenance  
Hanover Department of Public Utilities  
P.O. Box 470  
7516 County Complex Road  
Hanover, VA 23069*

*(804) 365-6701 (phone)  
(804) 365-6705 (fax)*

9/24/2008